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April 1991 Issue 35 £2.95

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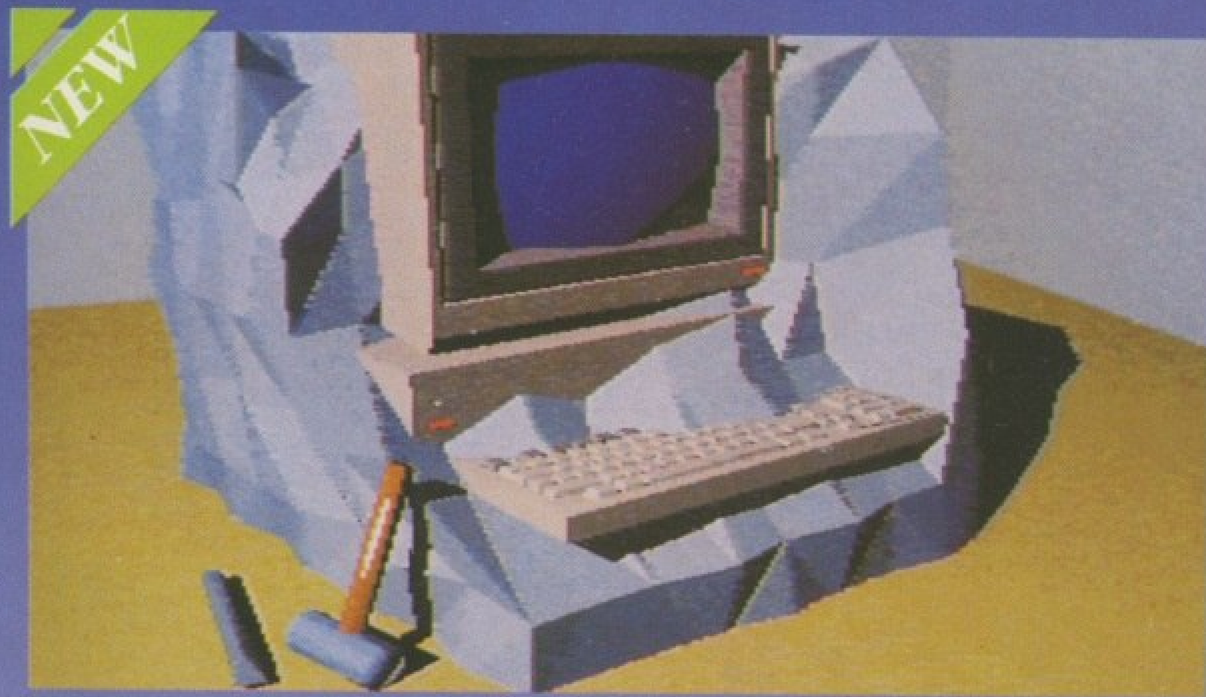
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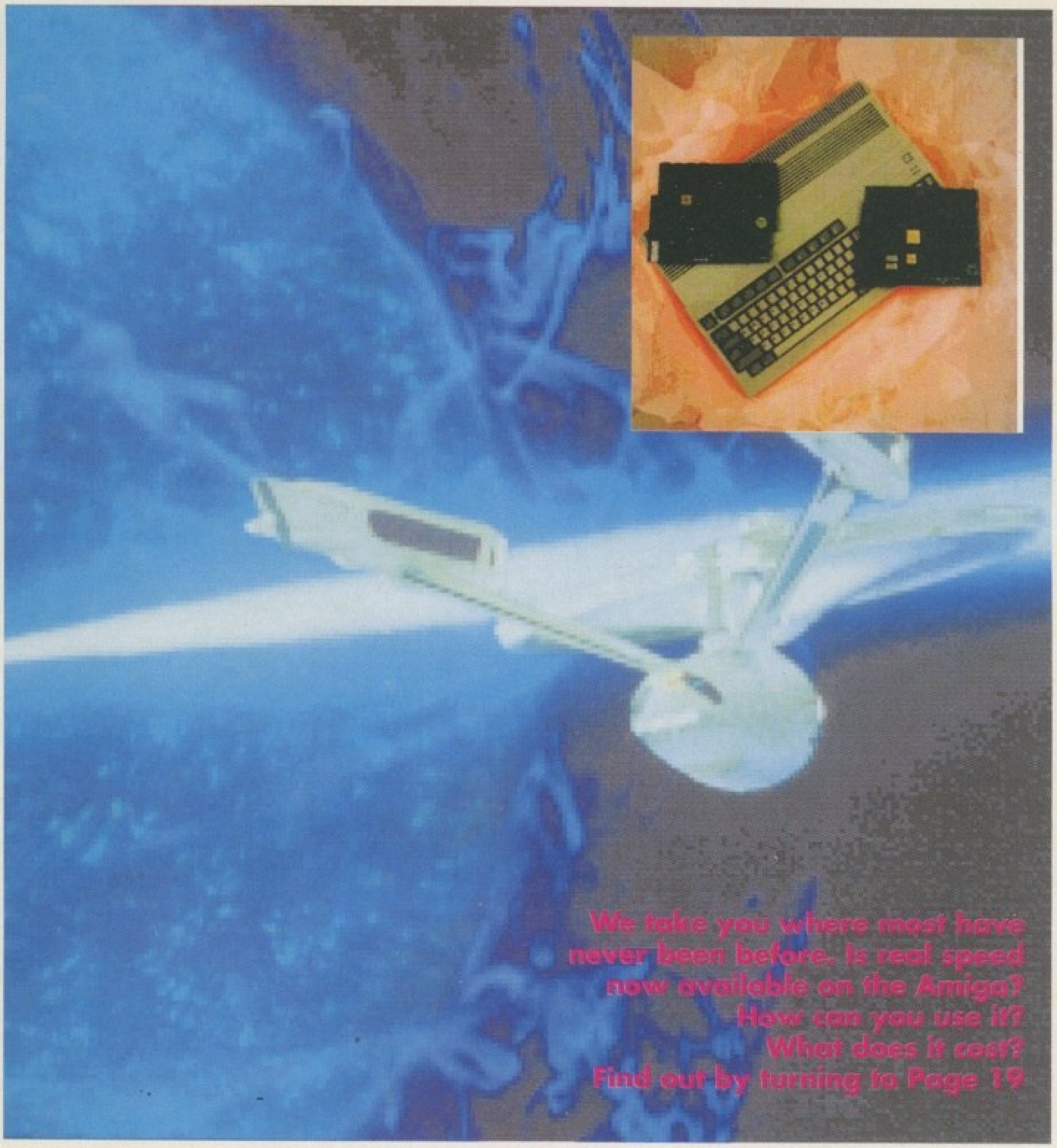
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THE DISK

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This month we bring you what other mags couldn't – a complete working copy of SpectraColor in all its HAM and animated glory. Take a gander at our April special, Bench 2.0, a wonderful piece of PD that will dramatically transform your Workbench screen. Especially for music buffs we have a first rate ripper – Hunter. A ripper is a magical piece of software that searches through the Amiga's memory and tears out the chunks containing musical samples. Hexit will provide intellectuals with hours of mathematical Blockbuster-type fun, while Yawn! swaps plastic for silicon in the classic sliding tiles game. Our final offerings, Size and Data-2-Obj, are two delightful little programs for use with CLI. Enjoy!

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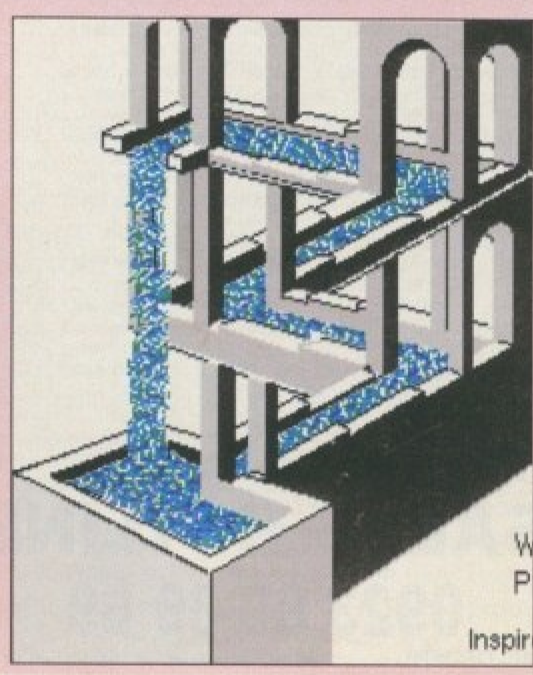
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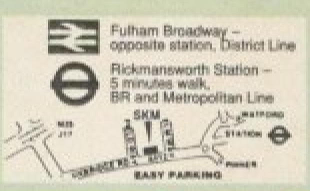
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AMIGA people

AMIGA people come in all shapes and sizes, and one who has notched up a notable first is 12-year-old Girl Guide Kerrie Stevens from Woodford Bridge in Essex.

Using her brother's Amiga, Kerrie has become the first Guide in the country to achieve a computer literacy badge.

The badge had been on offer for more than a year when Kerrie's brother Andy noticed a report that it had been won by Scouts but never a Guide.

He mentioned it to his sister and she decided to take up the challenge.

During weekend visits to his London flat Andy taught her the fundamentals of more serious computing and how to use the BASIC programming language.

From there, Kerrie graduated to writing her first simple program which converts centimetres to inches and metres to feet.

A member of 4th Woodford St Pauls Guides, and a pupil at Caterham High School, Kerrie first became interested in computers when Andy bought himself an Amiga.

"Kerrie was seven years old when Andrew bought the computer and she used to sit with him for hours", said her mother Lynn.

"She likes playing games, but her interest increased when she sent in for the badge. She had to write her own program then answer questions about it.

"Now she has won the badge, the only problem is that she wants a computer of her own".



Computer Guide, Kerrie Stevens

NEW MAN AT ACCOLADE

Accolade, the Amiga and other home computer games software house has appointed a new managing director for their European operation. Based in London, Tim Christian will be responsible for Accolade's day to day European business.

Since its inception in 1989, Accolade Europe Ltd has been represented by London-based The Sales Curve under the leadership of Jane Cavanagh.

"The Sales Curve has done a remarkable job of expanding Accolade's business in Europe and helping us establish a foothold in the European marketplace," said Peter Doctorow, vice president of international business development. "Their expertise has contributed much to the success of such game hits as The Duel: Test Drive II, Elvira and Jack Nicklaus golf simulations. Our business has now grown to the point that we ➤

WHAT'S new

SPRING DEBUT FOR CHEAPER CDTV

WHEN CDTV hits UK shops it could be £100 cheaper than originally planned. Commodore are currently trying to bring the initial £699 tag down to below the £600 mark.

Commodore's Andrew Ball told *Amiga Computing*: "We are looking at a price below £600, and the inference has been that this would make it £599. It could be lower, but we cannot confirm any figures at present".

Also still unconfirmed is a launch date for the new home entertainment system. Following its re-launch at the giant Consumer Electronics Show in Las Vegas, where it was well received with more than a dozen working applications on show, there was market confidence that CDTV would be ready to go on sale in March.

But Commodore are still sticking to the official line of a "spring launch".

When it does appear CDTV will be in 100 Dixons outlets throughout the country following a deal between Commodore and the retail chain.

"We are also negotiating with other High Street electric stores who seem to be very keen on CDTV, which is a new product category for them", added Ball.

"The consumer electronics business needs a tonic at present and CDTV can provide that".

Trade sources say Commodore predict 50,000 UK sales of CDTV between its launch and the end of the year.

DON'T BANK ON A TRADE-IN

IN last month's *Amiga Computing* we told of the Commodore deal allowing A500 owners to trade in their machines for a new A1500 with a £200 discount.

Don't dash off to your local dealer to take advantage of the

AMIGA people

need to manage more closely the opportunities of an expanding market."

BITMAPS PLAYING A NEW TUNE

THOSE gurus of the games scene the Bitmap Brothers are at it again with their second release under the new Renegade label, which they have formed in partnership with Rythm King Records.

Building on this tie-up between the worlds of music and leisure computing, their next offering called Gods will be available for the Amiga in March and will feature music by Nation 12.

This is the band which includes John Foxx, formerly of Ultravox, and Simon Rodgers, of The Fall and Ez-ee Possee. The track to be included in Gods will be Into The Wonderful.

Based on the tasks of Hercules, Gods is an eight-way scrolling arcade adventure. As Hercules, the player takes on four tasks to gain his freedom from the control of Juno and Eurystheus and achieve eternal life.

A real challenge, Gods poses four tasks in each of four levels. Each level is designed so it can be completed in a number of different ways.

A claimed unique feature of Gods is a system of alien intelligence which allows adversaries to interact and respond directly with the decisions made by the player. This means that the player cannot simply learn action sequences and react to them.

Graphics are by Mark Colman, programming by Steve Tall and overall design by Eric Matthews and Steve Tall.

The Bitmap's tie-up with RK Records followed their request to use Bomb The Base's track Megablast for their game Xenon 2.

RK boss Martin Heath is an avid games player and seized on the idea of giving developers more of the credit for their products – more in line with the way music artists are treated and one with which the Bitmaps readily agreed.

"The idea behind Renegade is to produce a publishing company which runs the way Rythm King Records does, giving artists the credit they deserve, paying their royalites on time and consulting them about packaging and promotion of their products", he said.



Left to right: Steve Kelly, Tom Watson and Dan Thompson

DOS WITH DASH FREES MEMORY

AMIGA person Jonathan Small has come up with a new product for serious program developers through his recently formed company Supa Nova Developments.

Supa specialise in development software and hardware and the new host-slave system CyberDos is aimed at both Amiga and Atari ST machines.

At the core of the system is a specially designed lead for connecting the computers and a collection of sophisticated controlling software utilities.

The lead is a high-speed link which can be used for transferring files between the two machines and more importantly for transferring new versions of programs between them.

Any combination of the two computer types is possible and the system automatically converts ST

WHAT'S new

offer! Commodore's publicity department have apologised for an error in communications. The deal is not a trade-in, but a straight price cut on A1500 machines.

If the latest story is the right one, customers buying an A1500 will get it for £999.99 inclusive of VAT rather than the previous price of £999.99 ex VAT – a saving of £149.99.

A possible reason for the confusion is that Commodore have now announced another trade-in deal. Owners of any video games console or any make of computer in any condition can take it into their local Commodore dealer and get £70 off the price of an a new Amiga 500.

The offer runs until the end of March, bringing the £399 price of the 500 down to £329.

LINING UP FOR THE SPRING SHOW

AMIGA products will be out in force at the first Spring Computer Shopper Show to be held at Alexandra Palace from May 10 to 12. It follows the success of the traditional December Shopper Show and is designed to feature the best of the new products due for a spring launch. At the last Shopper Show, market research showed than more than 30 per cent of visitors were Amiga people, a fact which will be reflected in the number of Amiga exhibitors being attracted to the spring event.

Already in the line-up for May are Precision Software who will be supporting the Amiga market 100 per cent. They will feature more than 200 Amiga titles, including a strong showing of serious productivity software.

Also among the Amiga supporters due to make an appearance are Evesham Micros, Hi Soft and US Action. In addition to the Spring Computer Shopper Show, there will be the traditional pre-Christmas event, to be held at Wembley from December 5 to 8.

PANEFULL FOR PIRATES

COMPUTER users who deal with confidential material may be under threat from data spies who can lurk outside buildings, home in with powerful equipment and pick up sensitive information from electronic signals which pass through windows. Now Pilkington Glass have come up with a weapon to

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NEW! - AMIGA PACK



Commodore A500 Flight Of Fantasy

£399 INC VAT

A500 BATMAN PACK



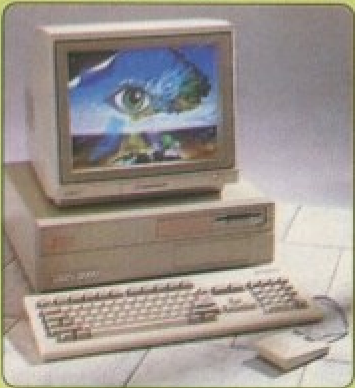
The Commodore A500 Batman Pack must surely rank as one of the most popular computer packs ever! The pack features the **Commodore Amiga 500 computer** with **mouse controller** and **TV modulator**, plus four top software titles. The software includes: **'Batman The Movie'** - Rid Gotham City of the cunning joker, in Ocean's top selling title based on the blockbuster Batman film; **New Zealand Story** - high quality conversion of the leading arcade game; **Interceptor** - Dogfight with two F-16's in this leading flight simulator; **Deluxe Paint II** - top quality Amiga graphics package which set the standard for others to follow. Return the coupon for further details.

PACK INCLUDES:

A500 Computer & Mouse	£399.99
A520 TV Modulator	£24.99
Batman The Movie	£24.95
New Zealand Story	£24.95
Interceptor	£24.95
Deluxe Paint II	£49.95
TOTAL RRP:	£549.78
Less Pack Saving:	£150.78
PACK PRICE:	**£399.00**

£399 INC VAT

AMIGA 2000



For the more serious or professional applications user, Commodore have a selection of systems based around the expandable Amiga 2000, at prices from £1295+VAT. The A2000 features a full 1Mb RAM (expandable to 9Mb), 9 system expansion slots, plus IBM compatibility with the use of PC-XT or PC-AT bridgeboards. Complete and return the coupon, putting a tick in the A2000 box, for details of A2000 computer systems.

£1295 +VAT= £1489.25

FLIGHT OF FANTASY

Flight of Fantasy is the very latest Amiga 500 pack from Commodore, featuring BRAND NEW software releases, to make this the most spectacular A500 pack ever! The pack features the Amiga 500 computer with mouse controller and TV modulator, as well as four top software titles. These include the following:

DELUXE PAINT II:

The high quality graphics program that set the standard for other Amiga art packages. Deluxe Paint II includes powerful, easy to use tools that bring out the artist in you. Create masterpieces, presentations, 3D perspectives or just doodle.

ESCAPE / ROBOT MONSTERS:

Here's something completely different - a science fiction story with comic book style graphics. Our heroes Jake and Duke are on the Planet X rescuing Humans who have been captured by the Robot Monsters and forced to create an evil Robot Army to DESTROY EARTH! Jake and Duke fight their way through hordes of evil Robots to help the Humans escape.

RAINBOW ISLANDS:

Slip on your magic shoes, practise throwing a rainbow and you're ready to go island hopping. From the Island of Doh to Monster Island, you will encounter Doh himself, stinging insects, lethal combat machines, mechanical assailants, the formidable beings of legend and folklore. Finally enter the world of darkness and its inhabitants.

F29 RETALIATOR:

The ultimate in flight simulation with a choice of two aircraft and four battle environments with dozens of different tactical missions. Aerial combat, strategic bombings, interactive ground based battles, seagoing carriers ... the list of features is endless. Real time cockpit displays, including 'true radar' enhance the realistic feel of this stunning simulation.

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A520 TV Modulator	£24.99
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PACK PRICE:	**£399.00**

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Before you decide when to buy your new Amiga computer, we suggest you think very carefully about WHERE you buy it. Consider what it will be like a few months after buying your Amiga, when you may require additional peripherals or software, or help and advice with your new purchase. And, will the company you buy from contact you with details of new products? At Silica Shop, we ensure that you will have nothing to worry about. Silica have been established for over 12 years, and have an annual turnover of £13 million. With our unrivalled experience and expertise, we can now claim to meet our customers requirements with an understanding which is second to none. But don't just take our word for it. Complete and return the coupon now for our latest Free literature and begin to experience the "Silica Shop Service".

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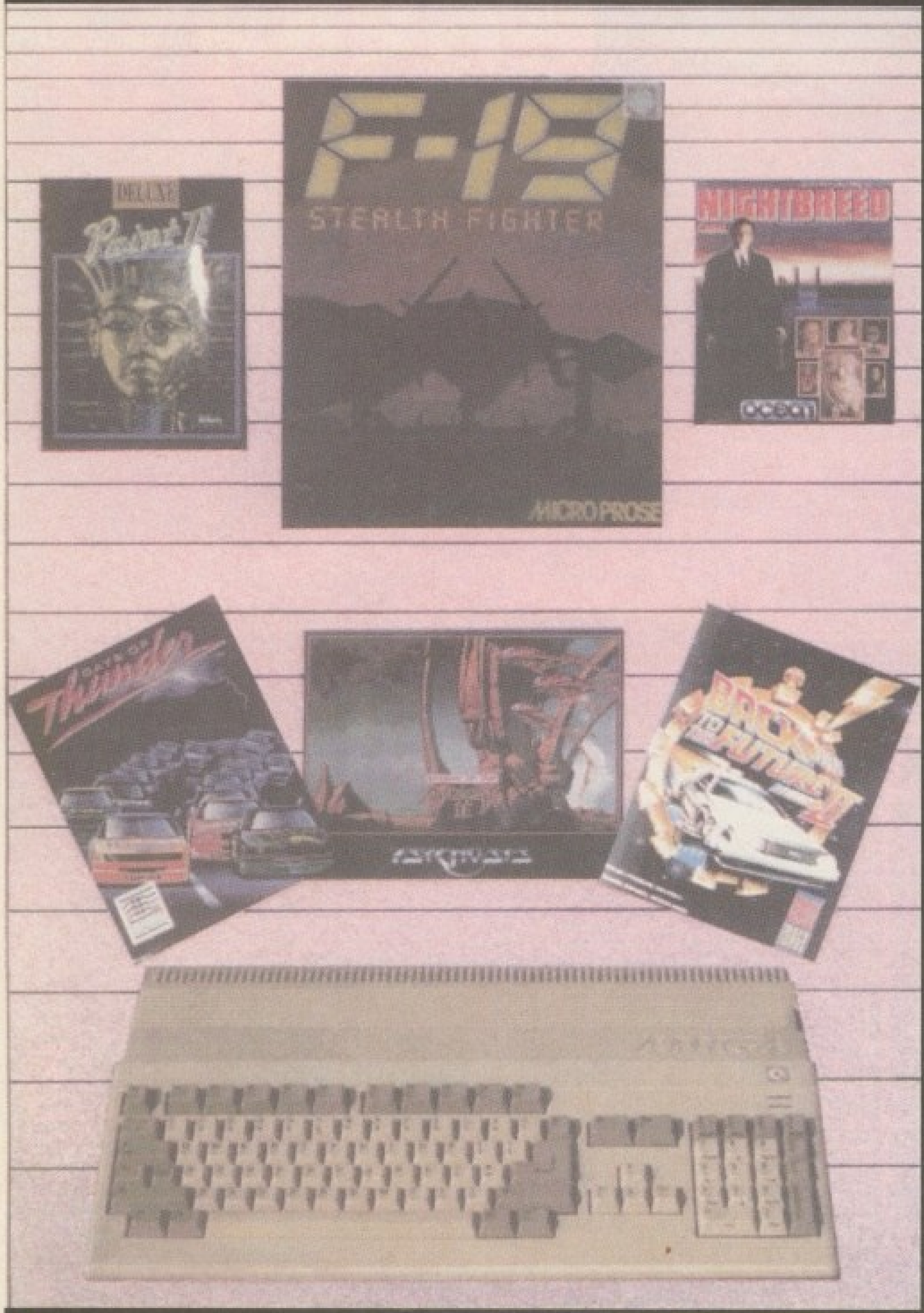
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E&OE - Advertised prices and specifications may change - please return the coupon for the latest information.

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AMIGA people

assembled code so it can be executed on an Amiga and vice versa.

Primarily aimed at games design, the system contains two sets of utilities. First is a set of DOS utilities which allows the transfer of programs and data between machines and the execution programs which will run under the target machine's normal DOS environment.

Second is a complete replacement system which can be used to run games.

"This includes a complete set of disk operations which will read, write and erase the standard files from the disk", said Jonathan.

"It also includes music playing routines with Soundtracker, keyboard and joystick handling routines, memory handling routines, data transfer via the link routines and more.

"The replacement DOS does not use any of the operating system for its operations, and because of this it is much faster than the normal operating system.

"It is also interesting to note that the new DOS only uses 15K for itself and about another 15K for buffers and tables. This frees a large amount of memory with about 480K available on a standard Amiga".

Two versions of CyberDos are included in each package – the development version which handles any transfers and automatically executes any new versions transferred over, and the run time version which can be included in any piece of software at no extra charge.

As *Amiga Computing* went to press CyberDos was under beta test and should be due out in March. Provisional price, £89.95. Supa Nova Developments are at 186 Brunswick Street, Leamington Spa, Warwickshire, CV31 2ER.

CHEAPER MEMORY

MEMORY Expansion Systems (051-236 0480) have announced a series of prices reductions on their Cortex range of expansion cards for the Amiga A500 and A1000.

The 2Mb version drops from £299 to £279, the 4Mb version from £419 to £379 and the 8Mb from £699 to £559. Memory Expansion Systems also offer the Cortex 8Mb expansion card for A1500 and A2000 from £199.

"Since the Cortex range was launched at CES, the price of memory chips has dropped and we are now able to pass this reduction in cost on to our customers", said David McGee.

"At the moment various factors, including the Gulf crisis, are making prices a bit unstable, but we will be keeping to our new pricing for the forseeable future".

EDUCATION MARKET EXPANDING

BETTER known so far for their involvement with distributors HB Marketing, Keith Howell and Julian Swallow have decided to take a new look at educational software for the Amiga through their new company, Genisoft (0753 680363).

Six months after forming Genisoft, they have collected an interesting array of educational products which were due for official launch as *Amiga Computing* went to press.

"We felt that there was a need for the more esoteric products which have not previously been published for the Amiga, either because people felt they were not suitable for that market or because the volume of sales was not sufficient", said Julian.

"Although it is six months since we formed Genisoft, we are only just launching the majority of these packages because we know from experience that it is better to get at least six packages ready before you start to talk about them. We waited until we had a good range.

"What we are aiming at is the better quality educational software which has not been avail-

WHAT'S new

thwart intruders. Called Datastop, it's a spy proof glass with special coatings which reflects electromagnetic radiation.

It does away with the need for computers to be housed in a Faraday cage or for windows to be fitted with diffusing wire mesh.

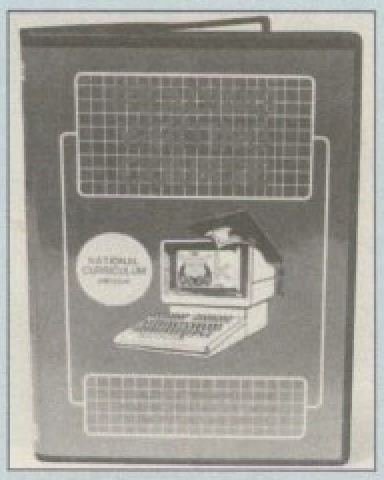
Not only does Datastop prevent malicious intrusion, it also cuts out the corruption of computer data by electromagnetic radiation such as radar entering from outside the building.

The Ministry of Defence, Foreign Office and City institutions are already showing interest in Datastop following tests at the Building Research Establishment.

An office was fitted with the special glass and tests carried out by both the Electrical Research Association and Communications Audit. The office was found to be secure even with an aerial sited immediately outside the window.

AMIGA TAKES THE CLASS

READING Writing Course, the popular educational package from LCL (0491 579345) is now available on the Amiga. A 24 program, two book course which comes with voice tape is claimed to be the first Amiga product to teach reading and writing.



LCL's Reading Writing Course

Covering attainment targets one to five of the National Curriculum, it includes a table to show which programs are suitable for which attainment targets and features animated colour graphics and music.

Reading Writing Course covers the alphabet with both lower case and capital letters, writing, word recognition and programs which teach students to compose sentences, write their own poems, read books and spell.

The course is suitable for all ages from three to eight years. It uses a teaching method approved by educational experts

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AMIGA people

able for the Amiga in this country.

"Some of it we have manufactured ourselves and some are American products which we have converted for UK use and are now marketing here".

First off the Genisoft production line is Kidstype, a wordprocessor for children which Keith and Julian see as a parallel to a first reading book. It teaches youngsters how to use a wordprocessor on the Amiga and costs £24.95.

Weather Watcher originally appeared on the BBC Micro and was written by Colin Reynolds of Mayday Publications. It helps young users keep and compare daily, weekly and monthly data on weather conditions, rainfall and temperatures, giving it wide appeal in education. Price, £24.95.

Genisoft are also to launch what they believe to be the cheapest video titling package for the Amiga. Called Home Titler, it is republished from a French program and costs £39.95.

Again from Mayday Publications, Game Set and Match is another former BBC product which has been completely re-written to take advantage of the Amiga's capabilities. It teaches children to match colours, numbers, coins and a host of other objects and costs £19.95.

BUT IN THE VERY BEST TASTE

TWELVE Amiga people are about to achieve an unusual amount of exposure on your favourite machine. The world's first computerised jigsaw with "naughty bits" is now available for Amiga owners. The Penthouse Electric Jigsaw for Adults has 12 puzzles featuring centrefold models from a year's issues of the famous Penthouse magazine.

Developed by Merit Software in America, it is exclusively distributed in the UK and Europe by Data Liberation (0983 864674).

In addition to the adult version, there is also a standard version where the Penthouse Pets of the Month appear skimpily but tastefully clad. The Jigsaw can include from six to 294 pieces with 16 different sizes to choose from – each with the traditional jigsaw shape. The program cuts the picture into a unique shape each time offering an infinite number of puzzles.

An overview window which appears at the bottom of the screen displays the pieces as if they had been spread across a table. This allows the player to view them all at the same time, selecting one or assembling groups before placing them in the picture.

When using larger numbers of small pieces, each can be moved into the main playing area then

DRAWN TO TELECOMS

CENTAUR Software of Redondo Beach, California have launched Maxi Sketch, a new graphic drawing tablet for all Amiga computers and MindLink, a telecommunications package for the Amiga.

Offering 100 dpi, Maxi Sketch features direct reconfigure from the tablet setup area and has a buzzer on/off setting which increases cursor button feeling and allows easy verification of tablet configuration setting.

Eprom memory allows storage of the user default configuration and there is also an auto configuring hardware interface. Maxi Sketh emulates a total of 15 drawing tablets.

MindLink features selectable data speeds from 300 baud to 31.25K baud; X Modem, Y Modem and Z Modem file transfer protocols and an exclusive chat-modem mode which allows user to talk while transferring files.

There are 20 password protected function keys for password security, a programmable timer, integrated script language for designing your own modem utilities and MindLink is fully multitasking.

For further details on pricing and UK availability, ring Centaur in the USA on 0101 213 542 2226.

WHAT'S new

for dyslexics and is also suitable for adult literacy classes. Price £24.

INTERFACE INITIATIVE

A NEW graphical use interface overlay system claimed to be better than the Amiga's existing GUI has been launched by Dallas-based Innovatronics.

Called Cando, it includes a module which supports a database facility for indexing, sorting and high speed retrieval of data and also offers seamless links into other utilities and software applications. Enhancing the Amiga WIMPS interface, Cando also features true floating point maths with double precision operations as well as maths and trigonometric ones. Innovatronics can be contacted in the USA on 0101 214 340 4991.

TWICE AS FAST

DOUBLE the speed for less than £200 sounds like a good deal for Amiga owners and it's one which Silica Systems (081-309 1111) are poised to offer with their AdSpeed board.

The board was expected to be made available mid-February but as *Amiga Computing* went to press, delivery from American manufacturers ICD was being held up by the Gulf crisis which has given many hauliers more pressing work.

At the surprisingly low price of £199, Adspeed is a replacement 68000 for the standard one in the Amiga and as such is easily fitted without soldering.

It speeds up your machine to a healthy 14.3MHz and benchmark tests claim an average doubling of speed.

"We expected delivery three weeks ago", said Andy Leaning of Silica. "Because of the Gulf crisis, it is somewhere in the middle of the Atlantic, but we are hopeful that it will be here soon".

COMPUTER GOES SKATEBOARDING

A COMPANY well known for innovative products, Cheetah (0222 555525) have now surpassed even their record for the off-beat. Aeroskate is a computer skateboard which promises to give games players ultimate interactive control and some exercise as well.

Launched at the recent Consumer Electronics Show in Las Vegas, Aeroskate comes in two

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AMIGA people

blown up for better viewing. There is also a working window through which all the pieces not already assembled can be scrolled.

Other features include a time clock/stop watch to allow for competition, a quit button to save the work in progress, a view button to see the uncut picture at any stage and a picture menu.

There is also a Roll of Honour facility where players' best times can be recorded. "What we have here is a program that successfully combines the look and feel of traditional board jigsaw puzzles", said Paul Booth, head of Data Liberation.

"Where it really scores is that you cannot ever lose any of the important bits". Price, £34.95.

MIDWINTER II COVERS MORE TERRITORY



WITH 250,000 square miles of accurately mapped 3D terrain, 4,000 characters, 24 modes of transport and 13 choices of weapons, Flames of Freedom – Midwinter II promises hours of absorbing strategic adventure for Amiga owners.

This Midwinter follow-up from Rainbird (0666 504326) sees Midwinter Isle under threat from the earth's changing climate. Evacuees escape from rising waters to the friendly island of Agora but now face a further threat from the evil Saharan Empire.

The player must take account of political, administrative and cultural perpectives and can use a sophisticated profile generator to choose looks, sex, psychology and physical characteristics.

Using Maelstrom's unique 3D light-sourced fractal landscapes, Flames of Freedom also includes thousands of buildings to explore and an auto-route option allows players to plan and execute their travel within the 3D automatically.

Available for the Amiga in May, Flames of Freedom will cost £29.99.

EASY PATH TO BETTER SPELLING

HOME micros are being recruited in the fight against bad spelling following Education Secretary Kenneth Clarke's instruction that school examiners deduct up to five per cent of GCSE marks for bad spelling.

Now Database Publications have announced the release this month of an all-formats computer program to teach spelling to children from 5 to 15.

The program, which has a vocabulary of 5,000 words is designed to improve the spelling of children of all abilities and in all subjects.

It contains all the basic words they will need to be able to spell during their school career if they are not to be penalised in exams.

SPELL! has been devised by Peter Davidson, former head of computing at a Manchester comprehensive school and now editor of the world's first computer comic, *Let's Compute!*

It has been programmed by a team of teachers headed by Chris Price, one of the authors of Britain's top-selling educational software, Fun School.

SPELL!, which costs £8.95, runs on the Amiga and most other popular home computers.

NEARLY MISSED OPPORTUNITY

IN THE March issue of *Amiga Computing* we published a rundown of mice and trackballs entitled "Alternative Input". Due to time constrictions not all the devices we were hoping to review arrived on our desks before the print deadline.

One notable omission to the review was the Contriver range of equipment, which has now found its way to the *Amiga Computing* staff's sticky little fingers.

Watch these pages next month for a detailed look their products.

WHAT'S new

packages, one including both base unit and Cheetah skateboard and one with the base alone so the player can use his own board.

Aeroskate connects to the games sytem or computer then the player jumps aboard using balance, and leaning left or right to avoid being zapped by the game. A built-in hand control module lets you fire back or jump out of the way.

Aeroskate is currently at the prototype stage and Cheetah are working with French software house Titus to design games specifically for it including skateboard, surfing and driving simulators, ski runs, and shoot 'em-ups.

At present, Cheetah cannot say how soon Aeroskate will become available or how much it will cost but it's certainly worth looking out for if you like something a bit different.

GRAPHICS ADD-ON

DUE soon from G2 Systems (0252 737151) is the MasterBoard VB1, a full 24-bit resolution add-on graphics system for the Amiga 2000 and 3000.

The single plug-in card autoconfigures to the host computer, has its own high resolution inputs and outputs and is fully genlockable with a range of coders and decoders for YUV, YC and composite signals available.

Control software for MasterBoard can interface with other graphics fils such as Sculpt and D-Paint and can be used for image processing and ray tracing.

It allows picture and mask manipulation, re-sizing, cut and paste plus filtering. The system can also be configured so that the frame grabs can be output in standard Amiga resolution and can read and write standard IFF type disk format and act on AREXX script files. The VD2001 version has a real-time 24-bit frame grab and display facility and costs £1,750. The FB2001 is a video output only version of MasterBoard for use as a frame buffer to display 24 bit graphic material and costs £1,350.

MasterBoard has a colour resolution of 24 bits/pixel with 16.8 million colour on screen simultaneously. Horizontal resolution is 512 or 344 pixels per line with vertical resolution, 600 pixels per line. Onboard memory is up to 1.5Mb of video RAM.

At present there is no full paint system for MasterBoard but Greg Hollidge of G2 says this is in hand.

The Amiga is a powerful machine. No one can deny that for £400 or less you can buy a beast on which you can with confidence unleash a variety of advanced tasks.

From fractals to frame-grabbing, it has made a name for itself in almost every area of advanced home computer application.

Six years after its launch, the Amiga continues to lead the way in opening new markets for home users.

As the only machine offering affordable top specification graphics software such as Sculpt-4D and Real 3D, it has been responsible for an explosion in the sort of high quality rendered graphics, which a few years ago wouldn't have been out of place in a Hollywood sci-fi production.

This year will see a rapid growth in the 24-bit graphics market, both in hardware and software, adding a new dimension to Amiga visuals.

The advent of graphics boards such as the Harlequin, covered in February's issue of *Amiga Computing*, and image processing software like ASDG's Art Department Professional – which we'll look at next month – seem set to push Amiga graphics to new standards of excellence.

However, this high-end usage has a downside. Power computing is the key phrase for most new Amiga applications, and in areas as diverse as astronomy and medical science the basic Amiga is struggling to meet the demands placed on it.

Its 7.14MHz 68000 CPU can no longer keep up with the requirements of more complex modern software packages and number-crunching tasks, and is a failing which has led many users to seek faster processor chips.

One way of doing this is to sell your existing machine and buy an Amiga 3000, but it is an expensive solution and calls for a complete change of equipment.

If you are comfortable with your trusty 500 or 2000 and have everything set out to your liking after the mega-hassle involved in building up your system, switching to a new machine might not be as appealing as you first thought.

The other way out for those who already own an Amiga is to go for an accelerator board, and the last couple of years have seen enough of these developed to offer a reasonable choice.

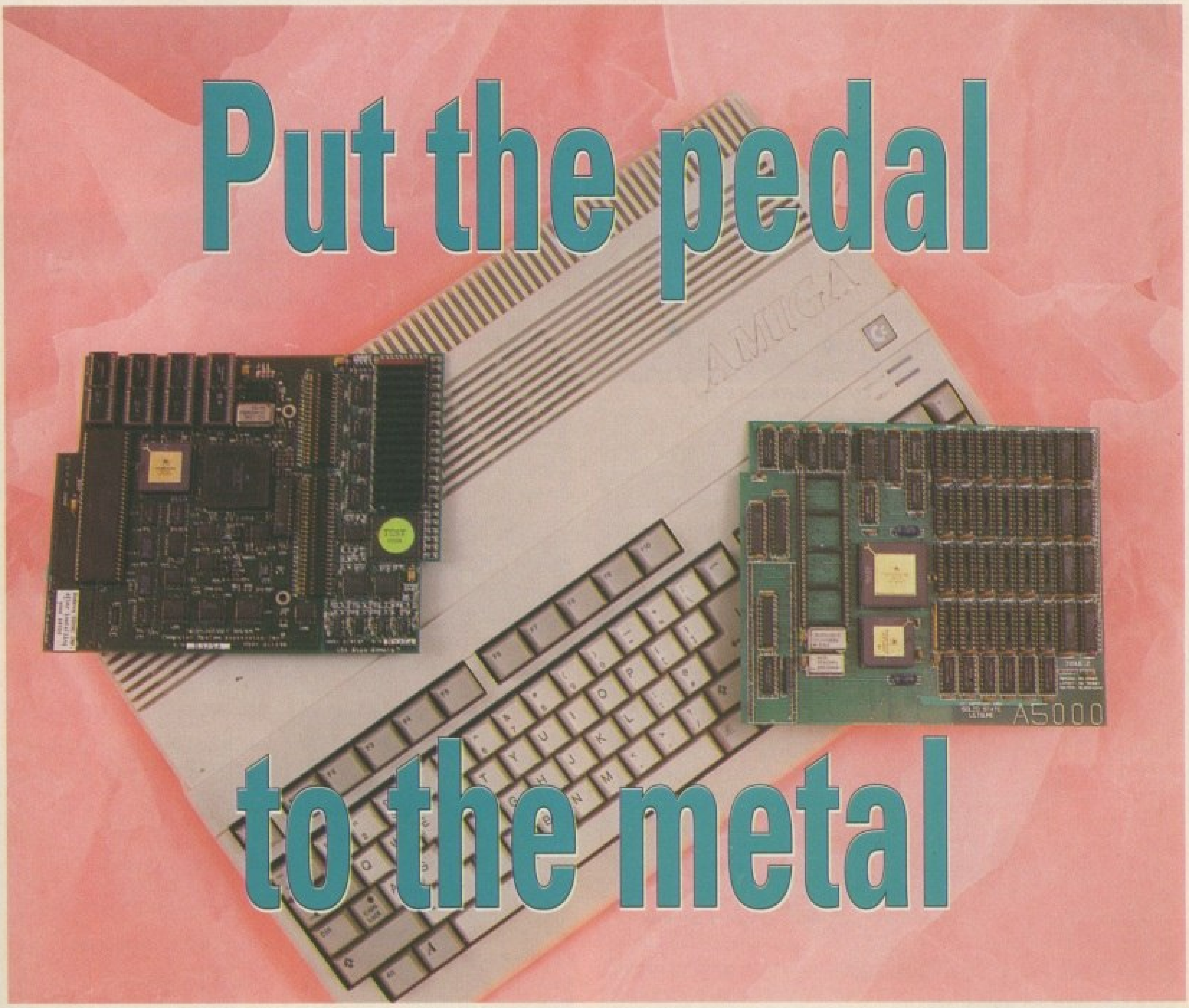
The boardwalk

There are three or four main third party accelerator boards competing for the upgrader's attention, ranging in price from less than £300 to over £1000.

We are not counting the official Commodore A2620 card, as its price puts it at a distinct power-for-the-pound disadvantage over third

Stevie Kennedy soups up his humble horsepower with a careering cardful of mighty MIPS

Put the pedal to the metal



32-bit

Faster processor chips have a 32-bit design as opposed to the 16-bit 68000. This simply means that they can handle more precise calculations, carry out more instructions per clock cycle, and communicate along a data bus twice as wide as their earlier counterparts.

However, it is only when allied to 32-bit memory chips that these processors reach their best speeds.

It would be pointless to upgrade to a 68030 chip if its blistering access demands were being answered by slow memory chips, and all its instructions trying to squeeze into 16-bit memory addresses.

For this reason, 32-bit memory chips with access times of 80 nanoseconds or less are required for the expensive 68020 and 030 chips to be of much use.

For example, a 16.67MHz processor using 32-bit RAM can provide a data transfer rate of 18.7Mb per second as opposed to only 3.2 Mb per second with ordinary Amiga chip or fast RAM, giving a possible six-fold improvement in memory handling time.

You don't need me to point out the advantages of chucking memory around at such speeds.



CSA's Mega-Midget Racer



Ease out the 68000 with extreme care

party rivals. If you insist on an official upgrade, by all means buy the Commodore card, but we'd advise you to consider the unofficial alternatives carefully.

Before looking at an accelerator card, it is best to consider exactly what it will be used for. To buy one of these units without a specific application in mind is to indulge in techno-junkie excess.

Graphics, CAD, DTP and scientific applications are all prime candidates for the go-faster treatment, but if the board is to be used simply to make Indianapolis 500 drive more smoothly than before, or make Xenon II just that little bit more manic, it's a waste of equipment.

Remember that the Amiga is served by many more chips than just the central processor. Agnus, Paula, Denise and the rest will continue to run at the same speed as before regardless of the CPU replacement. Any software which makes extensive use of these chips will enjoy a much reduced improvement in speed.

A machine with a 68030 chip running at 25MHz might still run an arcade game only 10 per cent faster than a basic machine. £300

A500/Mega Mi

Configuration	MIPS
1Mb A500	0.79
1Mb A500 plus A5000 NO 32-bit RAM	2.880
1Mb A500 plus A5000 with 1Mb 32-bit RAM	5.05
1Mb A500 plus Midget Racer	7.56
Best case improvement:	
A5000	639%
Mega Midget Racer	956%

is a high price to pay for this sort of performance, especially when games software is that most often plagued by incompatibility problems.

Great Valley Products 3001 range

GVP cards were some of the first 030 cards available, and have become something of a standard by which to judge other cards.

They use the 68030/68882 combination with 32-bit RAM to achieve a tenfold increase in mathematical speed over a standard Amiga, and offer an onboard AT hard drive interface.

Partly because of their high spec, and partly because they have enjoyed a head start on other boards, the GVP units are a bit more expensive than some of their competitors.

The 33MHz model with 4Mb RAM, for example, weighs in at £1,795, a price guaranteed to bring tears to the eyes of most users.

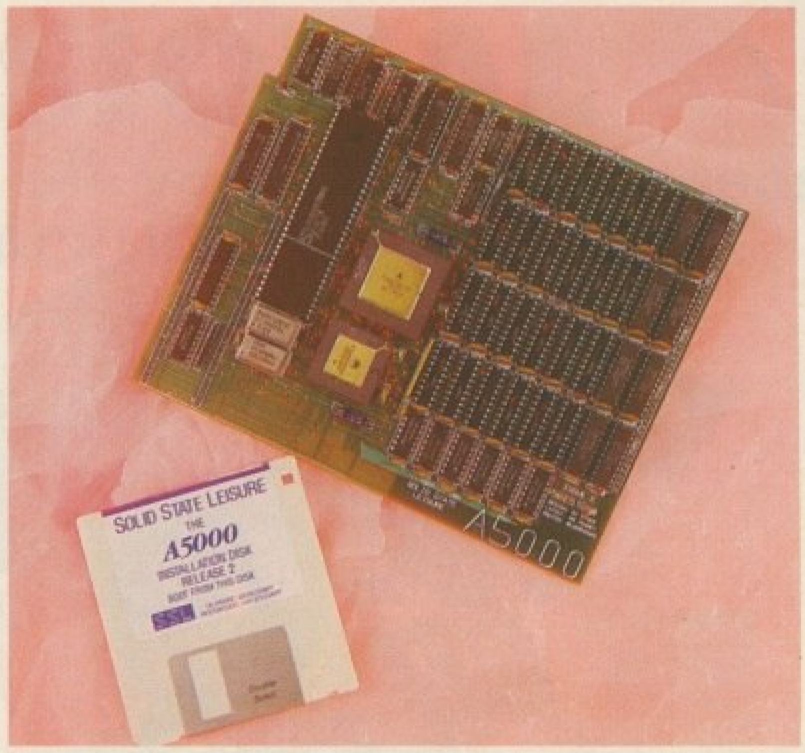
For the sort of power thus purchased it is still a reasonable price, but expect to see it fall as competition for the acceleration market hots up this year.

Unfortunately, the GVP boards are only available to A2000 owners and there are as yet no signs of an A500 model being released. For 2000 owners, however, the GVP range is an existing and widely used answer to many of the power needs of today's applications.

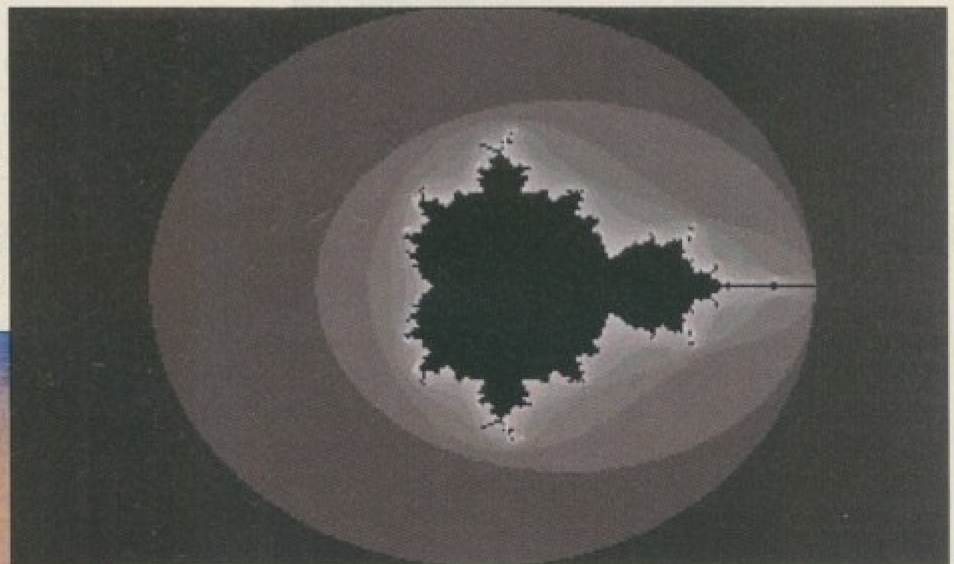
CSA Mega Midget Racer

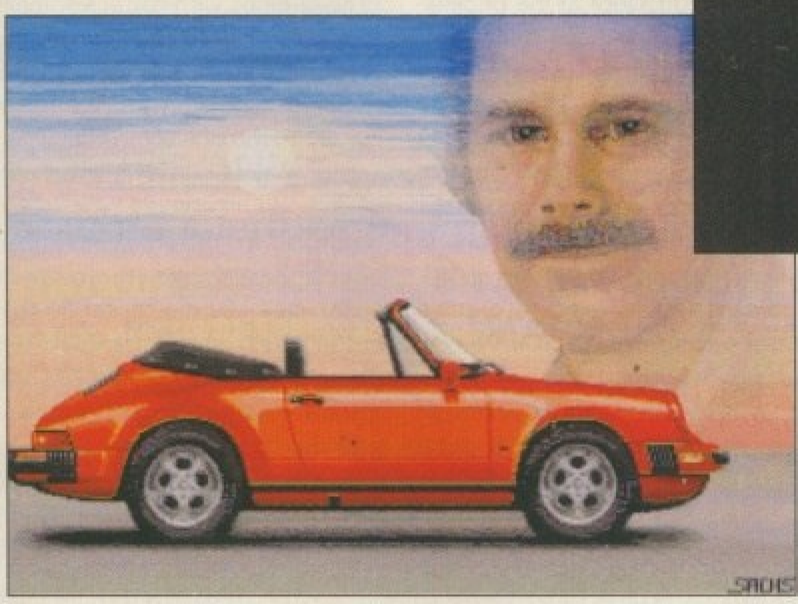
The Computer System Associate cards have been available for a while now in a variety of configurations.

The range includes boards for all models of Amiga save the 3000, and comes in almost as many flavours as your choice of co-pro-



The A5000 in all its glory





Two of the packages used to test the boards' speed – Mandelbrot on the right and Indianapolis 500 below

Mi[g]et Racer benchmark results

MIPS	Mandelbrot	68881/68882 Mandelbrot	Load Digi-Paint HAM	Straight Speed Comparison
0.791	278s	N/A	23s	1.00
2.880	233s	89s	17s	N/A
5.051	85s	39s	8s	5.37
7.565	70s	28s	6s	8.18
639%	327%	228%	287%	537%
956%	397%	318%	383%	818%

Interpreting the tests

At its best, when 32-bit memory is used and the 68881 is utilised to its full, the A5000 can offer an improvement of about 713 per cent over a standard 68000. This is the figure reached if you compare the 68881 mandelbrot generation with the standard 68000 generation of a normally coded routine.

Of course, this figure would rarely if ever be achieved in normal operation. The 287 per cent improvement in Digi-Paint loading, and the 233 per cent in Protext scrolling is more like an everyday improvement.

The Mega Midget Racer's results show how much faster a 68030 with twice as much 32-bit RAM can be. As a head-to-head comparison, the results are of little importance, because the boards use different processors and retail in different price brackets. Taken as a power-for-the-pound comparison, however, the table should offer a guide to those considering the various options open to them.

We used a Midget Racer with 25MHz 68030, 25MHz 68882, and a 2Mb Mega-Memory board as this, according to Bytes 'n Pieces, is the most popular configuration. The card was faster than a 16MHz/20MHz A5000, but as the CSA boards appeal more to the professional end of the market, and the A5000 boards offer an easier entry point for the average user, their relative merits are best seen from an applications rather than price point of view.

There would have been no point in a "this one's the best so buy it!" approach, because there is a limitless variety of wallet sizes and end uses to consider. What should be clear is that the choice of accelerator is dominated much more by the user's needs than by any relative superiority between cards.



Carefully insert your board. If it doesn't seem to want to go in, check the pins – don't force it!

cessors and memory options demand.

All Midget Racers have a 25 or 33MHz 68030 chip at the heart of things, and an optional 68882 Floating Point Unit operating at anything between 20 and 50MHz.

In addition they use 32-bit RAM and surface mounted components to maximise speed and efficiency.

Memory is available as either 1Mb or 2Mb on-board if you use 256*4 DRAMs, or 4Mb to 8Mb if using the more expensive 1024*4 chips.

These are fitted on the Mega-Memory board which must be purchased separately, and can only be added in the 1,2,4, or 8Mb chunks.

Some 512K of shadow RAM (SRAM) can be fitted to the Midget Racer board itself, but this is used to store Kickstart and is not immediately available.

One of the board's biggest selling points is that its design allows for a very gradual but uninterrupted upgrade path. The A500 user can buy a bare 68030 board and add SRAM, 32-bit RAM, and a maths co-processor as their budget and system requirements dictate.

This is not unique to the CSA boards. The A5000, for instance, can be user-configured in much the same way and GVP boards can take new processors.

But the CSA cards differ in one important respect in that they are transportable between different models.

The same board used in an A500 can be fitted to a 2000 if the user upgrades, thus ensuring that money needn't be spent twice on expensive equipment.

And there's the rub, as Shakespeare once said. The CSA boards aren't cheap. The top end one with 8Mb memory, a 33MHz 68030, and 50MHz FPU will set you back well over £1000.

If you have a tame bank manager or bulging wallet, the CSA boards are a good bet for performance and ease of expansion, but unless dedicated to raw power the average user might want to go for something a little less ambitious.

Solid State Leisure A5000/B5000

The Solid State Leisure boards are the latest additions to the accelerator market, and are pitched at much the same users as the Midget Racers and GVP series.

They are available in a similar array of configurations, but are more machine-specific than CSA boards in that the B5000 will only fit in an Amiga 2000. However, the cards still allow users to choose from a range of 32-bit RAM and processor options.

Where the range extends beyond CSA and GVP is in its appeal to the low-end user, with a 68020 card retailing at only £295.

The 020 processor isn't as fast as the 030, but for less than £300 you get a 16Mhz 68020, a 20MHz 68881 maths co-processor, and 1Mb of 32-bit RAM expandable to 4Mb.

As you can always replace the original chips with faster versions, the A5000 board represents one of the most inviting options for the average user contemplating a move into the power market.

Fitting the board is carried out by the now traditional piggyback method. In other words, the user simply removes the original 68000, fits it into the socket on top of the A5000 board, then slots the board itself into the vacant CPU socket on the Amiga's motherboard.

As long as care is taken to avoid

The 68000 chips

No matter what Amiga variant you own, it has at its heart a member of the Motorola 16-bit 68000 chip family. For owners of A1000s, 500s, 1500s, and 2000s this is the standard 68000 running at 7.14MHz. A3000 machines use the 32-bit 68030 chip.

The differences between the various chips are many and technical, but they all come down to basic speed. The higher the chip number, the greater its speed, so a 68030 is faster than a 68020 which is faster than the 68000.

The 020 and 030 chips have a small on-board cache of memory set aside for machine code instructions ranging from a tiny 256 bytes to 32K on 030 chips, and a similar amount set aside for data.

While neither of these is gargantuan, the caches allow for disproportionate speed increases by running small program loops, or holding common data within the chip itself.

In addition, the 68030 chip has an built-in Memory Management Unit (MMU), which operates to ensure memory is cleanly and 'legally' accessed. The new 68040 chip sports an integral Floating Point Unit (FPU) or maths co-processor.

A dedicated maths chip, such as the 68881/68882 processors, will dramatically speed up any operation calling for a great many precise mathematical calculations, such as CAD and 3D graphics. No accelerator board or chip is complete without one.

MIPS

MIPS is an anacronym for million instructions per second, and is a commonly used and quoted measure of processor speed.

It represents the average number of machine code instructions carried out by a processor each second, and as such can be seen as a reasonable guide to the *potential* speed increase offered by a particular accelerator board.

We stress the fact that the MIPS rating of a processor or board is not the final word on its performance.

A quick look at our comparison table shows that the percentage speed increase for some applications can be half that for a straight MIPS count.

A MIPS rating measures the internal speed of a processor, but from the user's standpoint it is always much more important to consider the practical benefits of an upgrade.

static discharges, or bending any of the pins, the operation should be easily accomplished in about five minutes.

Configuring the board is not quite as straightforward. A user expecting to simply plug in a board and find instantly accessible speed increases will be disappointed.

Like any accelerator board, the A5000 demands a certain amount of tweaking before the system will run happily with its new master of ceremonies.

Fortunately, most boards are supplied with software to enable this as simply as possible, and the A5000 is no exception.

The first task to be accomplished, if speed is to be maximised, is the enabling of the user's 32-bit memory.

This is very different from the chip and fast memory the A500 normally operates with, and is situated above the Amiga's usual memory map.

So if the computer is to realise the new memory is there, it has to be informed of the memory's presence.

A program called ALLOCMEM does this with little trouble and depending on the parameters set, will also enable Kickstart ROM shadowing by loading it into 32-bit memory.

This will automatically intercept MOVE_SR instructions – the most common source of 68020 software incompatibility – and delay the boot sequence to allow slow hard drives to catch up with the processor.

The command can be included in the user's system disk startup-sequence or used directly from CLI, and is a very flexible answer to some of the problems posed by an upgrade.

However, the bugbear of many an upgrading user is software incompatibility, and the problem is sometimes incurable no matter how much tweaking is indulged in.

The only answer in such cases is a 68000 fallback switch, by which the user can return to standard operation.

Again, all cards will supply this option, and where the A5000's in common with the Midget Racer is a command which re-boots the Amiga while it resets the CPU.

The unfortunate consequence of switching back to 68000 mode is that the 32-bit memory is no longer available, so if the system doesn't have normal RAM expansion it will come down to earth with a mighty bump.

No 68020, no 32-bit RAM, no kudos. The 68000 couldn't make full use of 32-bit RAM in any case, but it would have been nice to have tried it!

In operation we found the A5000 behaved quite well, with only a few glitches. Software was a bit of a problem in 68020 mode, but all the main productivity titles we tried worked fine.

The speed at which they ran did not achieve the obviously blistering pace one might expect from examining the MIPS or Mandelbrot benchmarks in our comparison table, but this shouldn't be a surprise. A speed increase in real terms of about 30 per cent was the lowest performance gain, rising to almost 300 per cent in some cases.

The future

There are clearly some excellent products on the market at the moment, but the good news is there's more to come. Acceleration is set to become one of the biggest Amiga hardware markets in the next few years, and we should shortly be seeing new devices at both the upper and lower ends of the price and power ranges.

The latest chip to join the Motorola 680x0 family is the 68040, and it promises to be to the 68030 what the 68030 was to the 68020.

From Motorola's own technical specifications and some preliminary tests, it is possible to look ahead to a truly impressive leap in Amiga computing power.

For the sake of comparison, try to imagine 300,000 transistors on a chip. This is the number packed into a 68030. The 68040 has 1.2 million of them, which Motorola engineers claim helps the chip offer three times the 030's performance!

The 68030 came with its own on-board Memory Management Unit, but the 68040 goes one better with an in-built Floating Point Unit as well.

This unit is designed to be compatible with 68881/68882 code, but its design is optimised to reach performance levels 10 times greater than the older FPUs.

Preliminary tests of a 25MHz 68040 have clocked up 20 MIPS, which is four times as fast as the A5000 we look at in this feature, and certainly faster than an Amiga 3000.

Bytes 'n Pieces, who presently import the CSA cards, informed us that at least one third-party peripherals manufacturer is already developing a 68040 card for the existing range of Amigas.

Needless to say, we'll be on the look-out for 040 products over the next few months, and will bring you any news as it comes in.

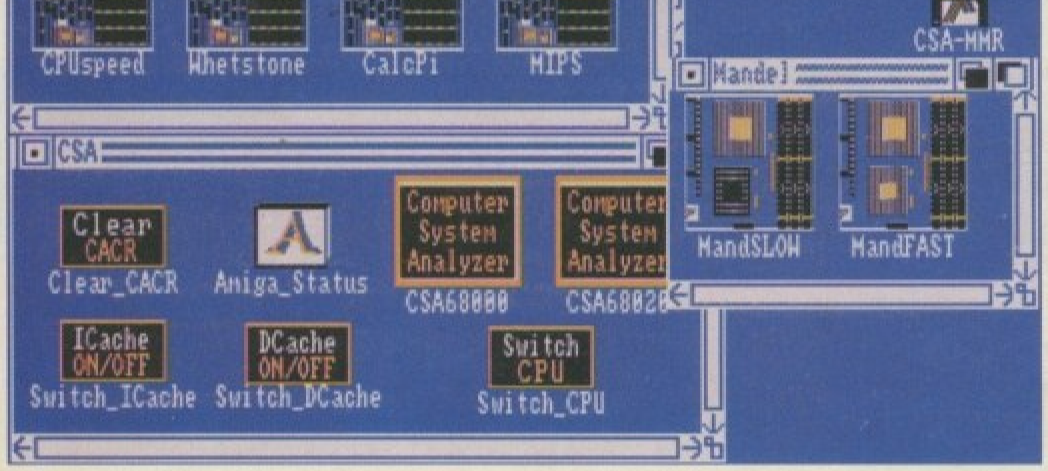
I.C.D AdSpeed

This simple plug-in CPU replacement is an uprated 68000 running at 14.33MHz and using a 32K on-board RAM cache to greatly speed up common program loops and data retrieval.

As we go to press AdSpeed is currently undergoing final tests in the States after last minute technical problems delayed its release, so we're unable to bring you performance figures.

However, the finished product should be of a high build and technical quality if ICD's other add-ons such as the AdRAM card are anything to go by.

It is unlikely that AdSpeed will begin to match the performance of 020 and 030 cards with their own FPUs and 32-bit RAM, but retailing at only £199 it should be a tempting alternative to the average user, who is looking for a bit more power at less than the cost of a hard drive.



The utilities screen

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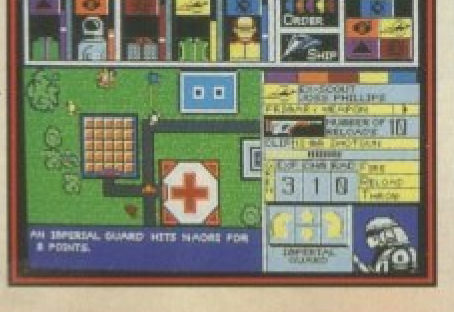
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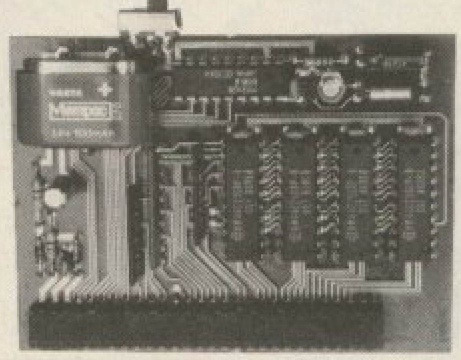


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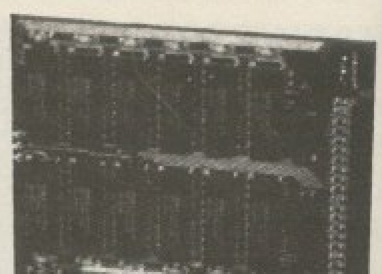
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How to use The Disk

First of all, you must make a back-up copy of the coverdisk. To do this, boot-up with your copy of Workbench, then double click on the Workbench disk icon, followed by the Shell or CLI icon. Now type:

```
DISKCOPY FROM DF0: TO DF0:
```

or, if you have an extra disk drive, put a blank, formatted disk in DF1: and type:

```
DISKCOPY FROM DF0: TO DF1:
```

Follow the on-screen prompts until the copying procedure has ended, then put your original disk away in a safe place. Now switch off the machine and wait for 30 seconds before re-booting with the copy. Wait until the CoverDisk17 icon appears, double click on it and away you go.

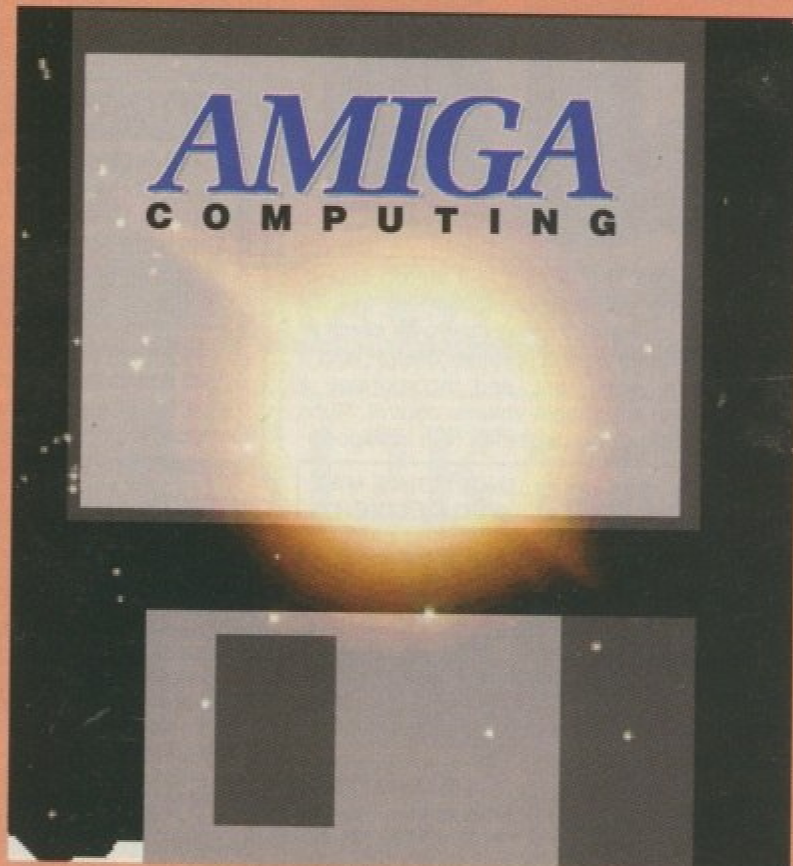
That's all you need do to make a straight copy of the entire disk. However, you may also want to to copy individual programs from your copy of the coverdisk to a separate disk. In this case ensure that you fully understand which related files need to go with it.

For example, all of the document files on the disk require that the text editor PPmore is in the current disks C: directory. Therefore, if you copy the docs to a new disk you will also have to copy PPmore to the new C: directory before you can read them.

Some of the smaller docs will not have been crunched, so for these you need only change the tool types on the icon's info screen to reflect whichever text editor you do have on the new disk.

As a general rule, you should carefully read the documentation for any program you copy from disk to disk.

This can save a great deal of messing about and can help you avoid all those infuriating error messages!



Startup stuff

Each month from now on we'll be trying to bring you one or two handy little bits and pieces for those who love to mess about with their startup-sequences, and if you delve into this month's, you'll see a couple of commands you might not be familiar with.

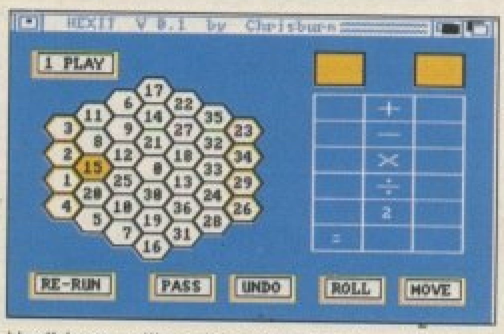
The first of these is WINSIZE, which has been used on the disk for ages and which I'd recommend you pass over in favour of the much smaller SIZE mentioned later in these pages. Either is very useful if you want to load Workbench but still leave a CLI window open from startup.

Normally you'd have to resize the CLI window manually so you could see the Workbench screen, but with these you can have your Workbench open in much the same way as our coverdisk.

The second is ONLYPAL1, a tiny routine which ensures your Amiga boots up with a full sized PAL screen - 256 pixels high instead of an annoying 200 pixels NTSC screen.

You've probably noticed by now that the Amiga will sometimes boot up in the NTSC screen size for no apparent reason. ONLYPAL1 will fix this bug if it occurs.

Remember to copy the files from the coverdisk's C: directory. You can't add commands to your startup-sequence if they don't exist on that disk!



Hexit could prove a touch embarrassing for our older readers! It's no walkover

Hexit

Author: Chris Bradburn

Hexit is an arithmetic educational game aimed at children of between eight and ten years – although it ought to please a good many older users.

It is based around a Blockbusters style gameboard made up of hexagons, which the player must cross one at a time by providing arithmetic solutions.

The player rolls a set of two dice to begin. The resulting numbers can be added, multiplied, subtracted, divided, or squared in an attempt to match the number on an adjacent hexagon.

Once the player finds a match, he or she clicks on the die with the first number on it, next in the box beside the operator required, then in the box to the right of the operator. This will bring up the result of the sum and if it matches a hex, the player can proceed by clicking on `Move`.

If the player cannot find a match the turn is passed over to player 2, and so on until one person reaches the other side.

This means that when in two-player mode the game can be played as a straight race. When playing alone, however, there is unfortunately no time limit or high score option to encourage a child to progress.

Used as an educational game with a little supervision, Hexit is simple with a big enough hook to retain substantial interest.

Hunter v2.20

Author: Martin Steven and Neil Boffin

If you use MED or Soundtracker, or just enjoy messing about with the Amiga's capacity to make great noises, you will have a whale of a time with Hunter.

This is a sample ripper – a program designed to search through your Amiga's memory and rip out chunks containing the music samples in which you are interested.

As long as you are ripping out samples or sound effects and not ripping off someone else's musical arrangements, there is no limit to what you can do with a decent ripper.

For example, you might want to build up your own library of MED or Soundtracker samples from a collection of PD demos.

A self-contained auto-booting music demo is usually rather inaccessible to the average user, but with Hunter it is quite easy to track down and capture any sample that takes your fancy. The first PD music disk which came to hand was the Kefrens Jukebox demo on Seventeen-Bit disk number 685, so I booted up with that and waited until I heard a few samples I liked enough to try ripping them.

By the time this stage is reached, the samples are already in the Amiga's chip memory, so the next step was to warm re-boot with the coverdisk and fire up Hunter.

You may also try a direct search through your target disk or music module using the load file option, and the IFF Search. Hunter, however, has several control gadgets making it easier to skip to any part of chip memory. They are located on the left of the Hunter screen and are start, length, frequency, and step size.

Start simply tells the program where in memory to begin the search, and can go up to 1024000, the top of most users' chip memory

Yawn!

Author: Lorenz Wiest

If you don't know this game and how to play it, you must be fresh in from Mars. It's a version of the classic sliding tiles puzzle in which you have to unscramble and put the tiles back in the correct order.

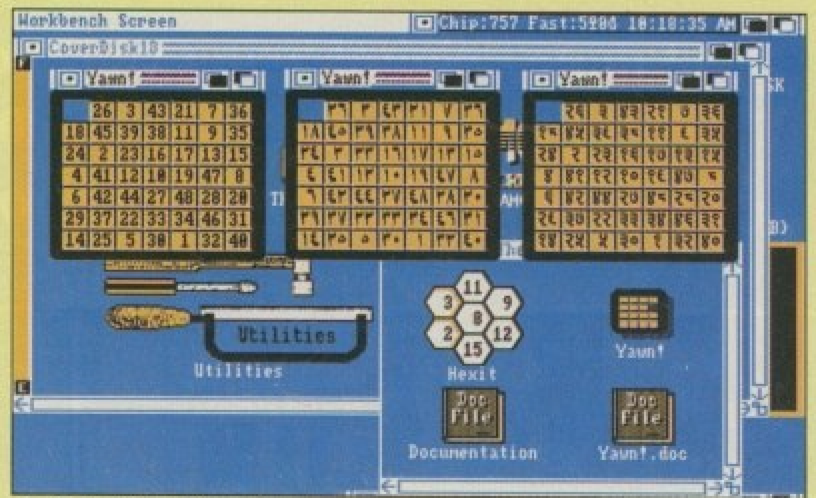
To move a tile when it's next to a gap, just click on it and it moves automatically to the empty space. Nothing could be easier, and the program will keep up with you no matter how fast you click.

It's possible for experts to race through a puzzle in impressive style.

By holding down the right mouse button while the Yawn! window is active, you can change the size of board from 16 squares to 49, at which stage things become significantly more difficult.

A notable extra feature is the ability to select Hindi or Arabic numerals for the tiles. There aren't many Amiga programs around that make allowances for a multi-lingual Amiga-using public!

We had a quick bash at Hexit while testing the coverdisk, and ended up spending half an hour on it. Simple ideas are the best, so they say, and games of this kind have been played for centuries.



Yawn! in all its multi-cultural glory

THE DISK



Hunter demands a certain amount of patience and perseverance, but the results are worth the effort

except for 3000 owners. A500 owners needn't search any further than 512000, because you won't find any memory beyond that on unexpanded machines.

Length sets the size of memory chunk to be played or saved to disk and is again expressed in bytes. Hunter doesn't try to baffle with hex codes or any of the usual machine coder's bumff.

It is designed to be used by musical illiterates like myself, and if I can achieve satisfying results, anyone can. The frequency button sets the frequency at which memory, including any samples found, is played.

To speed up the search crank up the frequency to about 15 or 18000, then slowly back down to between 10 and 12000 to hear them.

Use the IFF search options to chase down IFF samples, and the Load File requestor to examine a particular disk or music module. This saves you the bother of having to reboot.

The Kefrens samples were quite easy to capture and save to disk, and for the sake of compatibility I saved them one at a time as both RAW and IFF format.

You will be able to use your samples with almost any Amiga music package using one or the other.

I loaded a RAW sample into MED and was able to swap it with others used on various tracks of coverdisk songs until I'd completely destroyed the song's integrity. Hunter doesn't supply musical as well as ripping ability!

It should be easy enough to build up a samples library using Hunter from either PD or commercial software. Simply play the music, re-boot immediately with Hunter and trawl carefully through the Amiga's chip memory.

If the samples don't survive the warm re-boot, try a couple more times. If you still can't find them, try the IFF search options.

Should you still fail to find them, then the samples are either not continually resident in chip memory or the software clears memory as it plays them.

Whatever the reason, there's no point in banging your head against a brick wall, unless you intend to sample the sound it makes!

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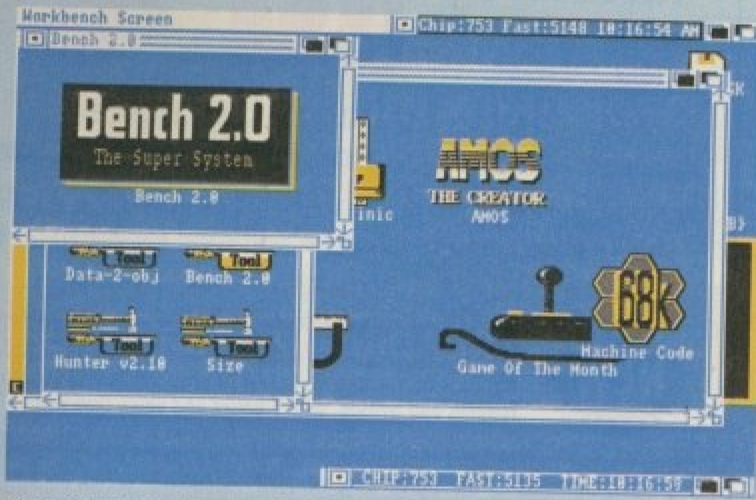
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Bench 2.0 will transform your Workbench screen at the click of a button

Bench 2.0

Author: Olof Lapri

Bench 2.0 is a superb PD program designed to transform your Workbench screen and radically alter its visual impact. It is guaranteed to make you sit up and take notice! The program's function is discernable immediately upon opening, so there's no need for documentation here.

One thing to note is that if anything goes wrong, or the program does something unexpected, you can restore your original Workbench screen by moving the mouse pointer to the top of the screen, holding it down and dragging the Bench 2.0 screen down.

You should then be able to click on Bench's close gadget which will be situated in the top left-hand quarter of the screen.

If there are other types of program you would like to see on the coverdisk write to: Stevie Kennedy, Amiga Computing, Europa House, Adlington Park, Adlington, Macclesfield SK10 4NP



Data-2-Obj

Author: John Chasey

This program is of use mostly to C programmers and works only from CLI. Its function is to convert raw data used by program code into object code so that the two can be linked into a single file, saving disk space and speeding program running.

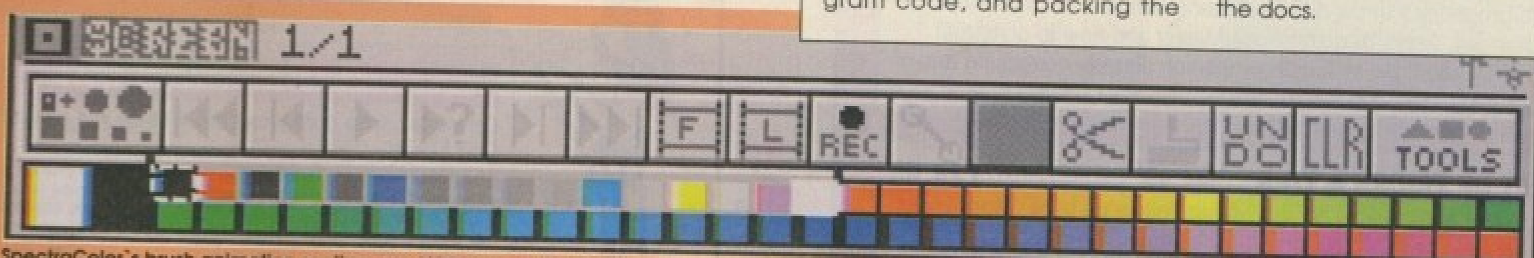
The example John Chasey uses is that of a program which plays samples as part of its operation.

We all know how large samples can be, so the advantages of converting these to object code, linking them to the program code, and packing the whole executable file without having to mess about with separate loads and de-crunchers at runtime is obvious.

The documentation on the disk includes a detailed example of the program's use and lists the hunk headers it won't recognise.

As John himself points out, the program can't as yet extract data from object files, but possible later versions may allow this and further operations.

If you have any queries about Data-2-Obj, John's regular and Email addresses are included in the docs.



SpectraColor's brush animation section uses VCR style control buttons



If you've only ever used Dpaint, the ability to choose from the full SpectraColor palette of 4096 colours just by clicking on it will be a real pleasure

SpectraColor

The main feature of this month's disk is a usable demo of Aegis's latest HAM paint package, SpectraColor. The version on your disk is complete in every function except that it will not save your creations to disk, but everything else is there.

The most obvious improvement over SpectraColor's close cousin, Photon Paint 2, is the inclusion of animation. In much the same way as Dpaint III, SpectraColor offers brush animation which is so simple to use you can't go wrong.

Simply load in your brush, click on a few buttons to define start and finish positions and pathway, and the brush whizzes round the screen in glorious HAM colour. This is the first HAM paint package to offer animation, so get stuck in there!

A word of warning to owners of 512K Amiga 500s. The program will load and function perfectly well on your machines, but when you try to animate a brush you will run up against memory restrictions. Make sure you run it with as few windows open as possible and no other program in background.

See Paul's review on page 77 for a more detailed look at the package's features.

AMIGA COMPUTING

Earn up to a cool grand

We are always looking for original contributions for the *Amiga Computing* coverdisk. If you think something you have written is good enough to share with everybody else who reads the magazine, send it along and we'll have a look. You can earn up to an incredible £1,000 for your submission, although it would have to rival commercial offerings to earn that amount!

Please let us know which files, if any, your submission needs from the Workbench disk. If it's clickable, feel free to design an original icon. But don't make it too large, and please use the standard Workbench colours.

Bear in mind that a program which does not run on a 512K machine would have to be exceptionally good to make it on to the coverdisk.

We are not prepared to pay for programs that are already in the public domain or have been spread by other means. We will, however, launch your contribution into the public domain either as freeware or shareware.

Please enclose this coupon, or a photocopy of it, with your submission. Include a file on the disk with full documentation, your name, address and telephone number, plus a few details about you and your kit.

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Sign this declaration

I declare that the program I have submitted is wholly my own work and I will indemnify Interactive Publishing against any possible litigation arising from breach of copyright.

Signed .... Date ....

Post your submission to:

Stevie Kennedy, Amiga Computing, Cover Disk Submissions, Europa House, Adlington Park, Macclesfield, SK10 4NP.



Size

Author: Stephen White

This tiny utility – just 712 bytes – is more of a CLI command than anything else. It allows full control over the size of the CLI window opened by a script file in much the same way as WINSIZE opens the small window at the bottom of the screen every time you boot up a coverdisk.

Size is a worthy alternative because it is so small. Written in machine code it is, therefore, more suited for use on compilation disks or, indeed, coverdisks where space is at a premium. It runs from CLI, but is best used in a script file such as a startup-sequence.

Unlike most window commands on the Amiga, Size opens a window by specifying its absolute screen co-ordinates rather than expressing its relation to the top left-hand corner of the screen. In other words, to open a CLI window the same size as the one opened for every coverdisk, one would type:

```
SIZE 0 156 640 256
```

The top left-hand corner of the window is opened at position x0, y156 and the bottom right-hand corner is at position x640, y256. The result is a CLI screen which stretches right across the screen and fills the bottom hundred pixels.

Size will be of most use to you if you work with CLI and use script files a bit, and as next month's *Amiga Computing* CLI pages will concentrate on how to use script files, you might like to hang on to it.

If you've enjoyed this month's disk, you'll be pleased to know there's more to come. Future disks will continue to bring you the best in reader contributions and the latest PD programs.

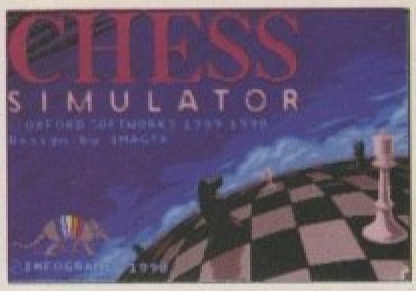
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AMIGA COMPUTING

DISK BARGAINS

Chess Simulator

Infogrames have taken this timeless classic and added a whole range of added features to bring you Chess Simulator.



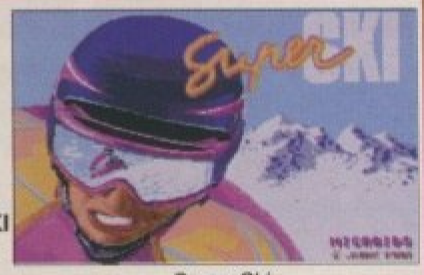
Chess Simulator is the ideal partner for budding Chess enthusiasts. It's perfect for guiding and improving your talents until you ultimately attain the standard of the Grand Masters. Infogrames' game includes a whole range of outstanding features including: An intelligent opening moves library, countless levels of play, advise options, save and restore options, 3D views and a wide range of different piece designs.

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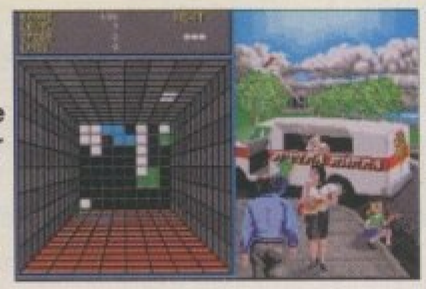
WARLOCK'S QUEST – An arcade adventure swarming with evil creatures and sneaky, devilish traps. If you like arcade games, this one's for you.

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Do you ever have to print names and addresses at awkward places on envelopes, or do you ever need to fill in tricky forms or invoices where the text has to be in exactly the right place? Usually you have to do it by hand, or get your trusty old typewriter out of the cupboard and dust it off. Well not anymore. The Emulated TYPEwriter transforms your computer and printer into a fully fledged typewriter, supporting bold, underline, italic and other type-styles. Because it can display and print text INSTANTLY you can line up your form, press Return and Space a few times to move to the correct place, and then start typing. Alternatively you can switch to line-by-line mode, which offers word-wrap, justification and proportional spacing, so that you can edit each line before it's printed.

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July '89 – PTP user receives tax refund of over £2,000!!

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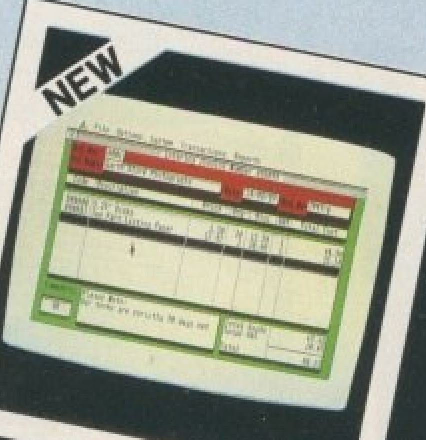
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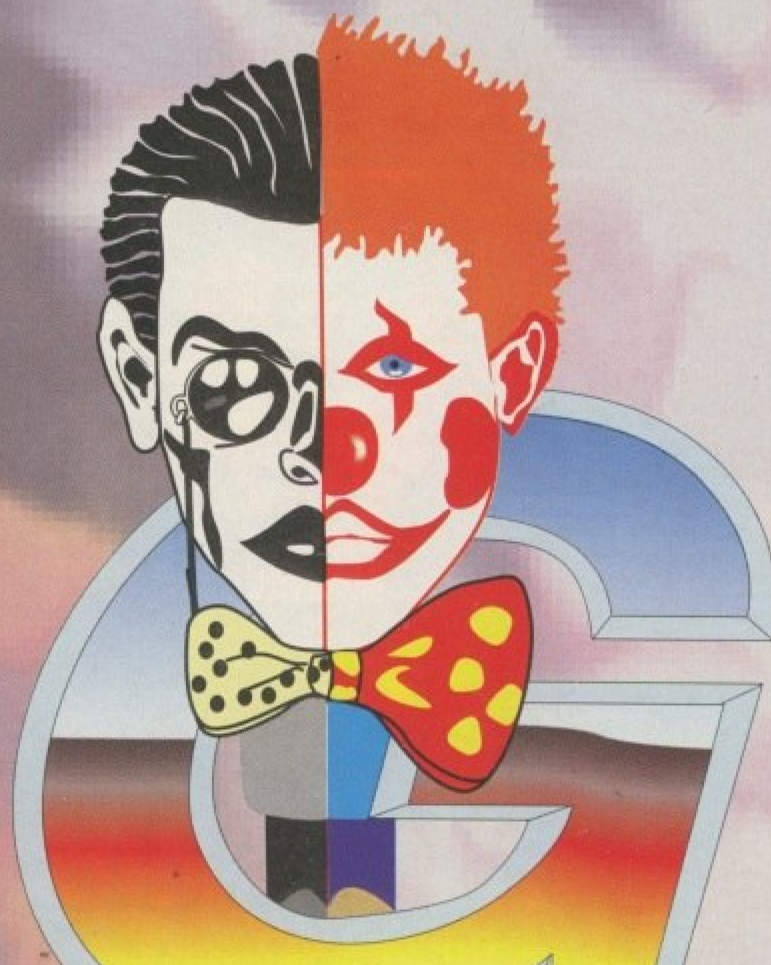
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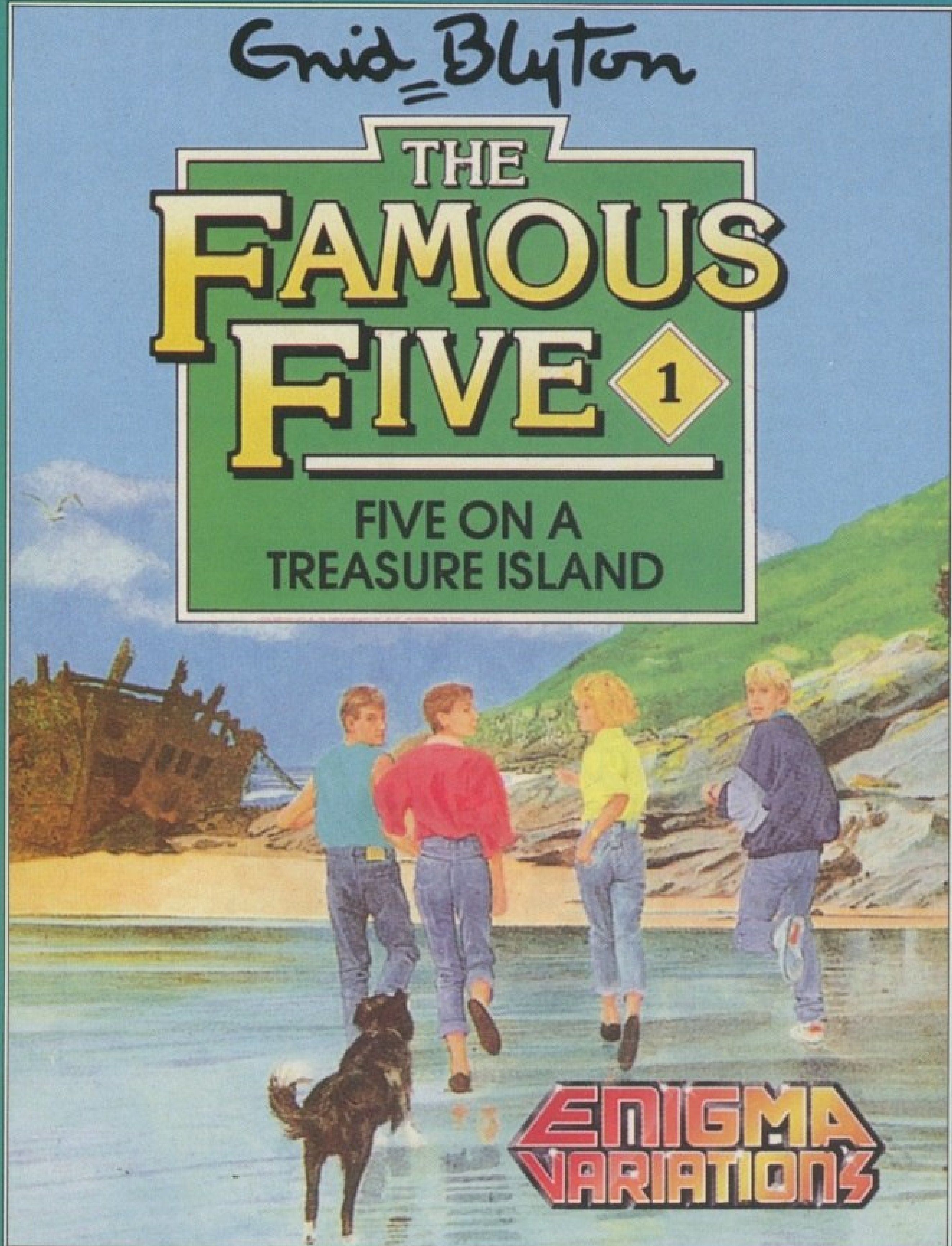
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When buxom Elvira bought an ancient castle as a weekend retreat she got more than she bargained for. She found that the evil spirit of her grandmother Emelda roamed within the castle walls.

Your mission is to discover the sacred scroll and dispel the spirit once and for all. Naturally, the castle is swarming with ghoulies and ghosties and you'll have to avoid them if you are to survive.

Featuring loads of gruesome and gory scenes, Elvira has to be one of the finest graphic adventures available. See for yourself, the game costs £29.99 and is available now.

Master of games Nick Clarkson stuns us yet again with a batch of the latest titles

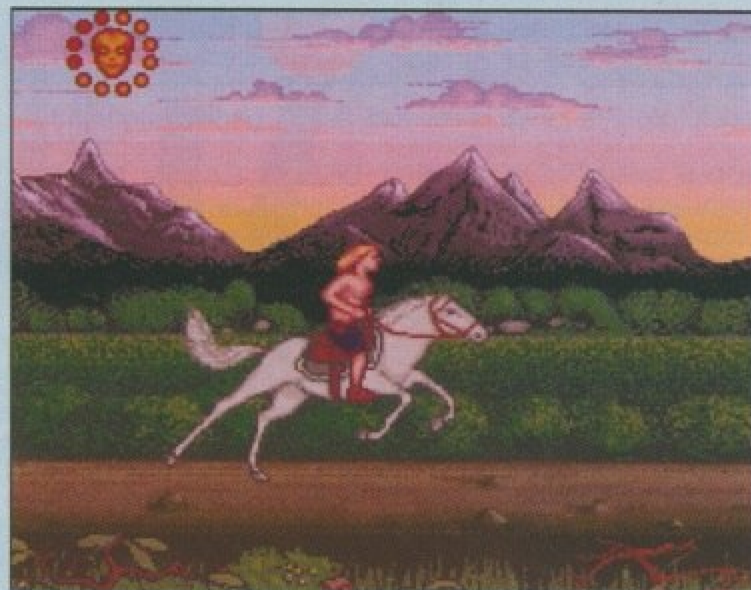
GAMES news

WRATH OF THE DEMON - *Readysoft*

Coming from the same stables as Space Ace and the Dragon's Lair series, Wrath of the Demon features slightly less adventurous graphics.

The game sees you undertaking a mission to rid the land of a meddlesome demon. Your journey will take you across distant countries where you will have to deal with some really nasty characters.

This arcade adventure will have you on the edge of your seat. Pop along to your local software dealer and barter £29.99 for a copy.



TEAM SUZUKI - *Gremlin*

Continuing with their theme of motor sport licences, Gremlin offer you Team Suzuki. Featuring superb, smooth vector graphics the game sees you sitting astride a throbbing motorcycle.

With external views and a range of challenging tracks, it really makes for an exciting experience. Test drive a professional motorbike today. At £24.99 it's heck of a lot cheaper than the real thing – and you don't even need a licence!

NARC - *Ocean*

Mr. Big is up to his old tricks and it's up to you to stop him. As Narc you must assemble your military hardware and wage war on the evil drugs baron.

You'll face an army of hoods out to spill your blood.

Later levels feature car chases and helicopter gunships. Using all your skills you must finally confront and kill Mr. Big. Narc should be available now and will set you back £24.99.



Stunningly smooth vector graphics

OBITUS - *Psygnosis*

If you were wowed by Shadow of the Beast II, you'll be amazed at Obitus, a cross between this and classic RPG games such as Dungeon Master.

Featuring superb graphics, sound and a free T-shirt, the game sees you attempting to overthrow an evil wizard – where have we heard that before?

Transported from modern times and incarcerated in the mage's castle, can you escape his thrall?

Obitus will cost you £34.99. In return you'll receive hours of entertainment and a free item of clothing to boot!

WARLOCK THE AVENGER - *Millennium*

Based on the old classic Firebird 8-bit game Druid, Warlock the Avenger sees you attempting to overthrow an all-powerful mage. Building up all the courage you can muster, you have to reach the wizard's tower and put paid to his evil schemes.

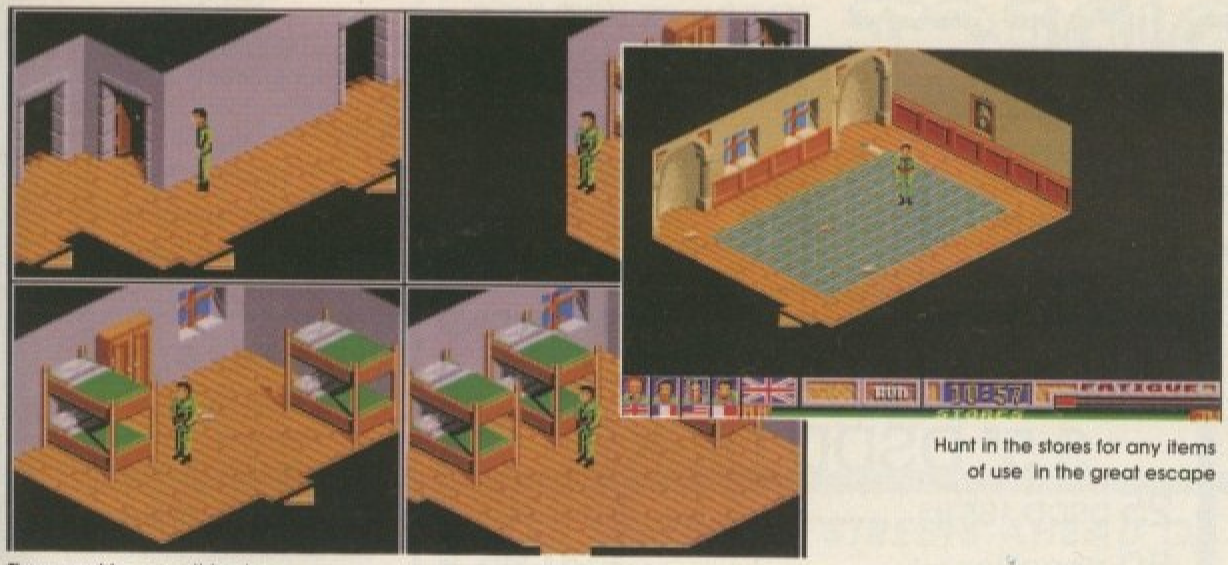
The action takes the form of a maze-style game not too dissimilar to the classic arcade coin-op Gauntlet.

During your travels you'll encounter all manner of nasties and will need every magic potion you can lay your hands on.

Warlock the Avenger should materialise any day now and will cost £24.99.



The hybrid RPG Obitus



There must be something here

Hunt in the stores for any items of use in the great escape

COLDITZ

Publisher: **Digital Magic**
Price: **£24.95**

According to the Geneva Convention prisoners of war must be given a fair share of the creature comforts of home. Naturally, this often leads to a more relaxed form of imprisonment than would be experienced in a normal jail.

A captured officer, however, has certain objectives to accomplish. These include hampering the enemy at all times and attempting escape at every possible opportunity.

During the Second World War hundreds of Allied troops were incarcerated in German prisoner of war camps. Probably the most famous was located at Colditz Castle in Saxony – an impregnable fortress on top of a stone hill.

Colditz was special in that it was the final place of capture for any problem prisoner the Germans encountered. Colditz, otherwise known as Oflag IV C, was deemed escape proof.

As an allied captive, you must lead four prisoners to freedom by evading the watchful gaze of the German guards.

Your team comprises a British captain, a French sergeant, an American lieutenant and a Polish private. Guiding the men around the fortress, you collect all the useful items you can lay your hands on.



Is it long enough?

Some parts of the castle are restricted areas and should you be caught there you'll be thrown into solitary confinement. Other areas can only be accessed if you have the right keys, which can be found dotted around the rooms.

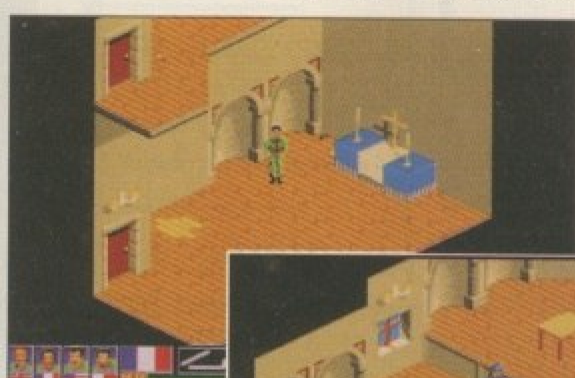
The best means of escape seems to be by tunnelling. If you have a saw, a pick-axe and a candle you can begin to form an escape route. With your fellow prisoners set up as stooges you can attempt to dig undetected.

The guards follow a strict timetable. During set times you'll be given free access to the courtyard in order to exercise. Avoiding the guards, you may be able to slip into areas usually out of bounds.

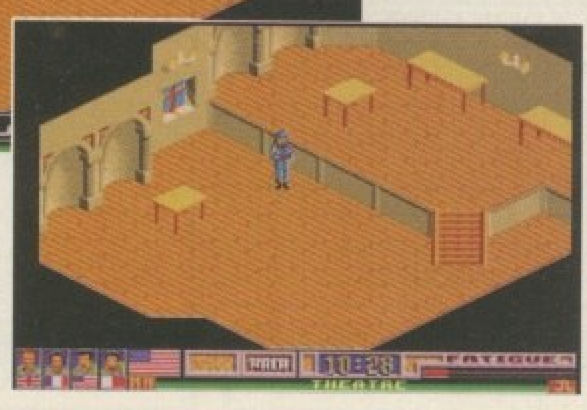
If you are daring enough you may even contemplate collecting a German uniform, passes and papers, and try walking out of the front gate. However, beware, if you are caught the guards take great delight in gunning you down.

Based on the best-selling Gibsons-Games board game, Colditz is a classic of strategy and exploration. Digital Magic reckon there are some 42 ways to escape – I've only discovered two!

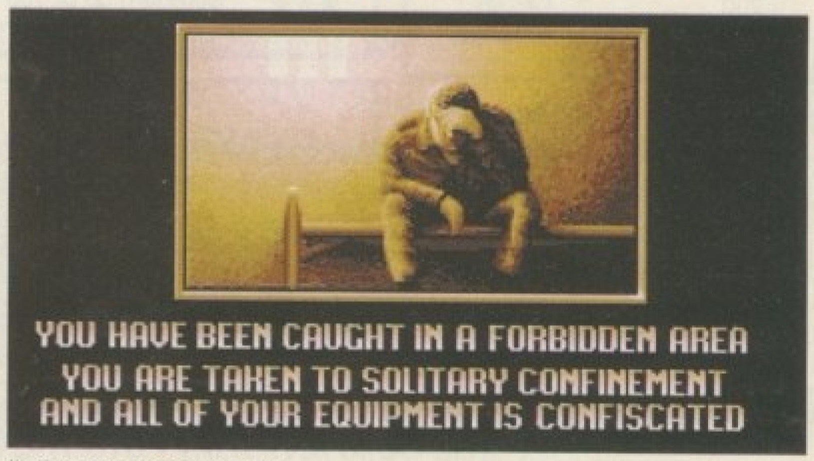
The package comes complete with a paperback book describing the daredevil bravado shown by the prisoners at Colditz. Featuring an accurate floor plan, Colditz gives, you the chance to relive the nail-biting days of Colditz Castle.



The chapel – what can be taken without defiling this holy place?



Time your movements to the second



It's the cooler for you my lad!

Graphics

With excellent 3D views, Escape from Colditz really brings to life the escapees' daring exploits. The game is huge and it'll take hours to explore the entire castle.

Sound

Sound effects are rather basic, but the game oozes atmosphere. The sound of the guards' footsteps are enough to set your heart racing.

Gameplay

Escape from Colditz is first rate. Initially players will spend time exploring and discovering what lies behind locked doors. Once a rudimentary layout of the castle has been learned the game becomes one of careful planning and escape. An excellent piece of software.

Oh no ....
The Public Domainiac's are back !

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444 Start Demo Pack 5 • Nice new demo pack
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314 Mirage Megademo • Superb ! but 1 Meg ..
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305 Warfalcons Purple • Why Purple ?
304 Flash - Danish Know How • And they do ...
303 Scoopex Demos • Atron 1 and Green Suprise
301 Savage Demo 4 • A nice magedemo
300 Intuition Megademo • When is your next one
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261 Cryptoburners 2 • Ace demos from CRB
258 Rebels Candyland 11 • My favorite comp !
257 Crionics Megademo • Starring ..... Madonna !
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252/253 Budbrain Megademo •Just BRILL !
251 Silents Megademo • I like it ... dont I ?
173/174 Red Sector • When is your next Mega ?
164 Scoopex Mental Hangover • Wild !
148 Gate Megademo • Superb music and Gfx
142/143 Start 3 • Comp with Cebit 90 and Como
140 Dragons Megdemo • Still very good !
136 Fraxion Horror • Still ..... Bleugh ...... Sick
109/110 Start 2 • Old but still gold ..nahhh !
101/102 Start 1 • Demo comp. older but bolder ?

We get loads of new demos arriving daily so why not try out our incredible new idea ....

MUSIC MEWS

499 Slabby Music • Totally brilliant music demo
486 Kraftwerk• Brill Music demos
483 Jesus loves acid • Erm .... I dont think he does
425 Digital concert 6 • Fabulous remix !
424 Sound of Silents • I love it ! Brilliant stuff !
295 Alf • Music from the crazy alien
286 Rebels megablast • Supah music disk
272 Crusaders Project Beat • Great music
263 Sun Connection • Coooloo music
246 Adam M Music 1 • Crap Music disk (haha)
245 Beast Music • From scoopex coool !
242 100 64 tunes • Just get this disk SUPERB !!!
231 Darkstar Music 7 • 8 Great songs
230 Darkstar Music 6 • more ripped music
229 Darkstar Music 5 • Hello jez How are you ?
228 Darkstar Music 4 • More great music stuff
227 Jarre Docklands • Brilliant music from Mr.Jarre
226 Beachboys meet popeye • Mad sample !
225 Digital Concert 5 • 4 Fabulous chart songs
224 Digital Concert 4 • Four more chart songs
223 Digital Concert 3 • 12 Minute megamix
222 Timecircle • Loads of great music
220/221 Dmob music 4 • Brilliant songs !
219 Technotronix • Get up and Pump up the jam
218 Kefrens jukebox • Absolutely superb !
197 Queen and Black box remixes
194 Crusaders Freeked out • Great mixes
186 Digital Concert 2 • A great 12 minutes !
145 Mahoney and Kaktus • Great music disk
141 Soundtracker Musics • Axel F,Doc,SII
133 Bacteria • BRILLIANT music from crusaders
107 Vangelis Demo • Superb demo 1 Meg

GAMES WAY

471 ST bash • Kill those Grey slabs of junk !!!
449 Computer Conflict • New game by Dr.Graffix
447 Recreation Games • Including Cluedo
283 Psuedo Cop • Shooty starring ED-209
282 Popeye Game • An LCD game on the Amiga
280 Mechforce • Good strategy war game
277 Board games • Backgammon and othello
276 Holy Grail • Great text adventure
274 The Golden Fleece Adventure game

ANIMATION ALLEY

474 Spacechase Anim • Very impressive ! 1Meg
458 Star Trek Manoeuvres • totally brill ! 1 Meg
457 Tron and Spaceship • Brilliant Anims 1 Meg
456 Stealthy 2 • Funny animation
455 Agatron 15 • 5 anims inc. the red lotus anim
452 Enterprise leaving Dock • Amazing ... 1 Meg
419/420 Star Wars Movie • Quite good .. 1 Meg
398 Fractal Flight • Nice scenary demo 1 Meg
215 Real things demo • Horse animations
213/214 Mission • A 4 Meg animation !!!!
212 Star Trek Animations • Various 512K anims
207 Luxo Teenager • The Lamp anim 1Meg
206 Newtons Cradle • and more animations
202/203 Star Wars Anim • X wing fighters 1 Meg+
201 Indiana Jones • Cracking good (ha) 1 Meg
198 The Run • 3D car chase by T.Richter 1 Meg
192 Walker 1 • The helicopter version 1 Meg
193 Walker 2 • The A2000 being attacked 1 Meg
190 The Juggler • Oldy but goldie !
189 The Gymnast • Nice swinging anim 1 Meg
165 Juggette • Mrs Juggler animation
153 Puggs Inspace • Great little demo/anim
113 Magician and Jogger • Good anims 1 Meg
112 Spaceship Anim • Flying round a 3D globe
106 The ElGato and Juggler Animtions • 1 Meg
104 Happy Man Anims • With more
103 Ghost pool and Dripping Tap • Good. 1 Meg

SLIDESHOW WALK

493 Vax Picture show • pics taken from a Vax !
489 Daxo • Garbage patch kid Slideshow
488 Traveller • Excellent HAM Fantasy slides
484 Color Cycles • Totally brilliant color cycling
461 Yabba Dabba • The Flintstones ! Supah !
454 Nightbreed • Superb Nasty Slideshow !
205 Agatron 8 • Excellent stuff from Tobias Richter
200 Roger Dean • Pics by this superb Artist
191 Forgotton Realms • Hobgoblin Slideshow
183 Nagel Pics • Pics from this talented artist
158 Agatron 6 • The definitive Slideshow ! Superb
139 Real 3d • Very impressive 3D slides
137/138 Silents Slideshow • Brilliant digishow
134/135 Fraxion Divine Visions slideshow • Great

UTILITY STREET

505 Mac Clip art • Superb clipart from a Mac
496 Visicalc • An impresive spreadsheet
495 RIM • A relational database.
494 ARP V1.3 • AmigaDOS replacement project
490 GMC • Games music creator
485 Startrekker • 8 Channel Noisetracker ! Wild !
480/481/482 The QL Emulator • Emulate a QL !
466/467/468 Countach Clip art • Very good stuff
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333 Darkstar Utils 4 • Hi Rob how ya do'in ?
332 Pendle Utils 5 • More supah kool utilities
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332 Pendle Utils 7 • The ST 28 superb utilities
328/329 Bootblock collection • for boot editing
180 Wordwright • with SGcalc and Labelprint
129 Mystix DIY Hardware modifications disk !
127/128 TV Graffix • Great Dpaint utils and fonts
123 ST-91 • Samples disk for music utils by Start
122 ST-90 • More great samples by Start
120 ST-02 • lots of Nice synthy samples
119 ST-01 • The original samples disk !
118 Noisetracker • So good ... even I use it ....
117 Future Composer • Good music maker
114 Intromaker • Make scrolly music demos

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MiG-29

Publisher: **Domark**
Price: **£34.99**

MiG-29 Fulcrum is the only flight simulation dedicated to a Soviet attack fighter. Programmed by ex-British Aerospace design team SIMIS, with the co-operation of the Tass news agency, MiG-29 gives you the unique chance to fly this fearsome aircraft.

The world's most deadly fighter was first put on public display at the Farnbrough air show in1988. Constructed by the Mikoyan and Guryevich Design Bureau, MiG fighters have become the backbone of the Soviet airforce.

As with all Russian aircraft, the MiG-29 adheres to a common ideology – simplicity of design, ease of maintenance, toughness and the ability to land and take off from the shortest possible runway. The MiG-29 can operate from a 240 metre strip, whereas its US counterpart the F-16 needs twice that length.

MiG pilots are the elite of the Soviet air force. However, critics of the system claim that despite first-class weapons, the Russian pilots are too rigid and inflexible during combat.

This sentiment is displayed in a comical saying brought about after the defection of a MiG-25 pilot – show a Soviet pilot initiative and the next thing you know he's landing in Japan.

Now you have the chance to prove the critics wrong and show the world what a MiG-29 can really do when pushed to its limits.

As a newcomer to Soviet technology you'll be called upon to attend the pilot's school at Orzusk Aerodrome.

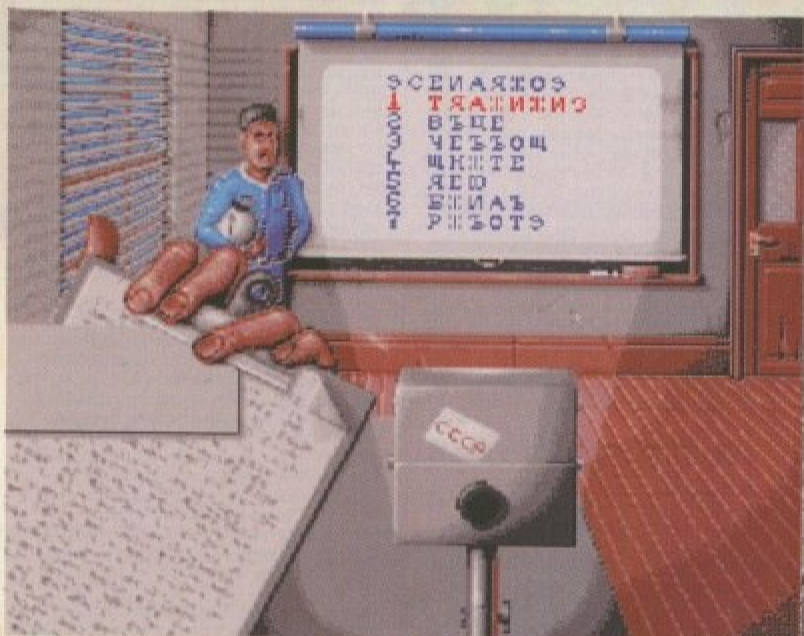
Having been chosen as an elite cadet you must perform well in order to be assigned to one of the many MiG squadrons around the squadrons around the Soviet Union. Your training schedule will encompass all aspects of aerial combat and only when you have become adept at handling the MiG should you really attempt a live mission.

There are five real-life scenarios to attempt. Having passed your training missions, you'll be assigned a number of tasks.

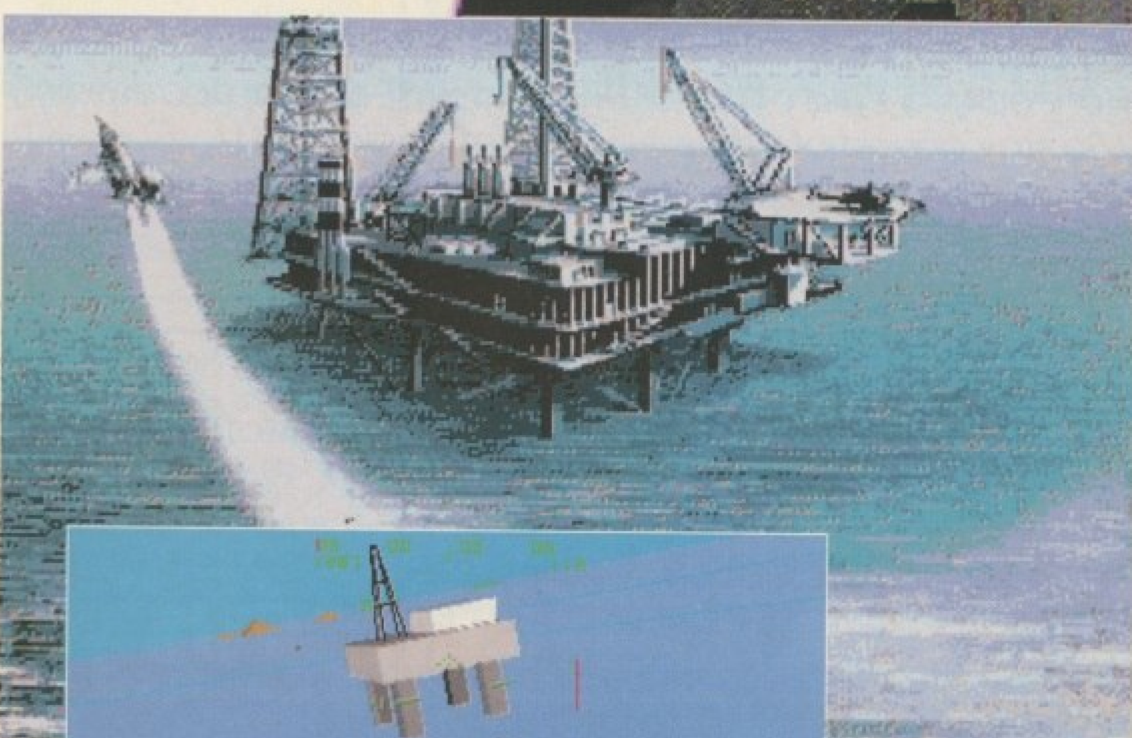
Each new scenario will test your skills in a particular field to extreme limits.

If you succeed in all your sorties you may be called upon to face a full-blown international incident. Only when you have proven yourself and your skills will you be





Receive your briefing before taking off



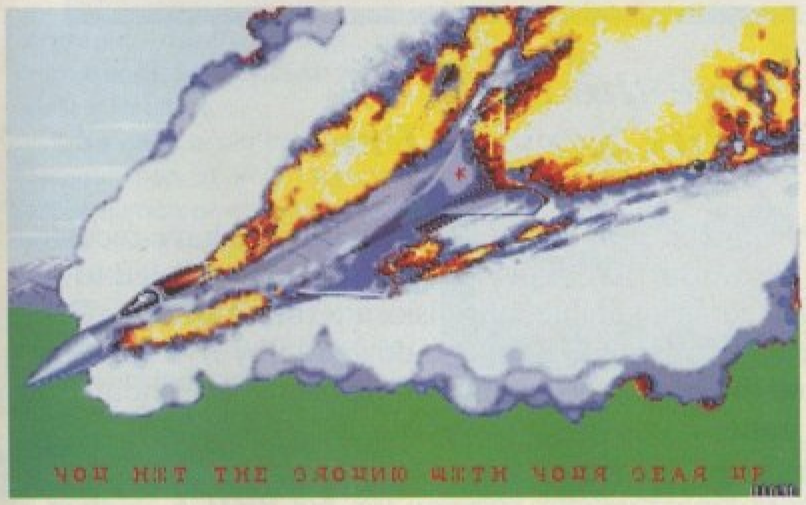


Take out the enemy's oil supply and cut off their most valuable asset



Line yourself up with the runway

9 FULCRUM



registered in the elite cadre of MiG-29 veterans.

Your first real mission, code-named Blue SeaSprite, sees you on a reconnaisance mission above a wintry sea. Flying below enemy radar, you must try to locate a nuclear sub and identify it before returning to base.

Yellow Dragon sees you flying a mission of revenge against the Chinese. Out to avenge the destruction of a MiG, you must teach the Chinese pilots a salutory lesson.

Mission three, White Pegasus, sees you taking part in a covert mission to destroy enemy oilfields and refineries.

Red Witch is a matter of national security. The KGB have infiltrated a terrorist group operating within the Soviet Union. Your task is to intercept the gang's convoy and aid your ground troops.

The final mission, Desert Strike, sees you attempting to halt the growth of the military power of an obscure Middle Eastern state. Flying alone, you must secure further strategic positions before destroying the country's nuclear capabilities.

The missions will test your flying skills, and completion of all five will prove your air supremacy. MiG-29 Fulcrum can be controlled by either the mouse or the joystick, with additional keyboard controls. The game is lavishly packaged in an oversized box complete with a full-colour, 128 page book featuring superb πshots of the Fulcrum.

The game includes all the regular features found in flight sims – out of the cockpit shots, missile-eye views and the ability to look at the aircraft from a number of different angles. All in all, MiG-29 provides the best insight you're ever likely to experience.

Graphics

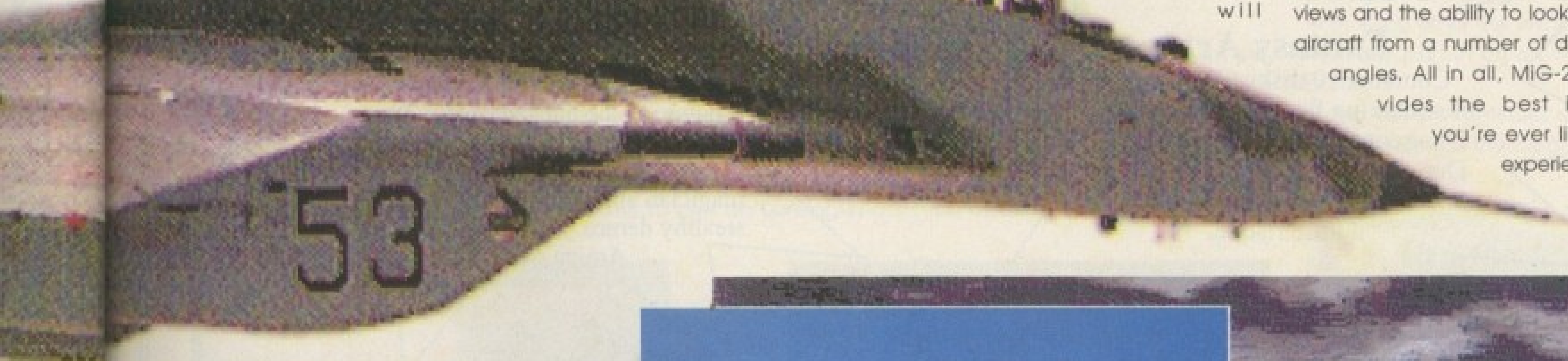
Graphical update is very quick and the on-screen representation is well drawn.

Sound

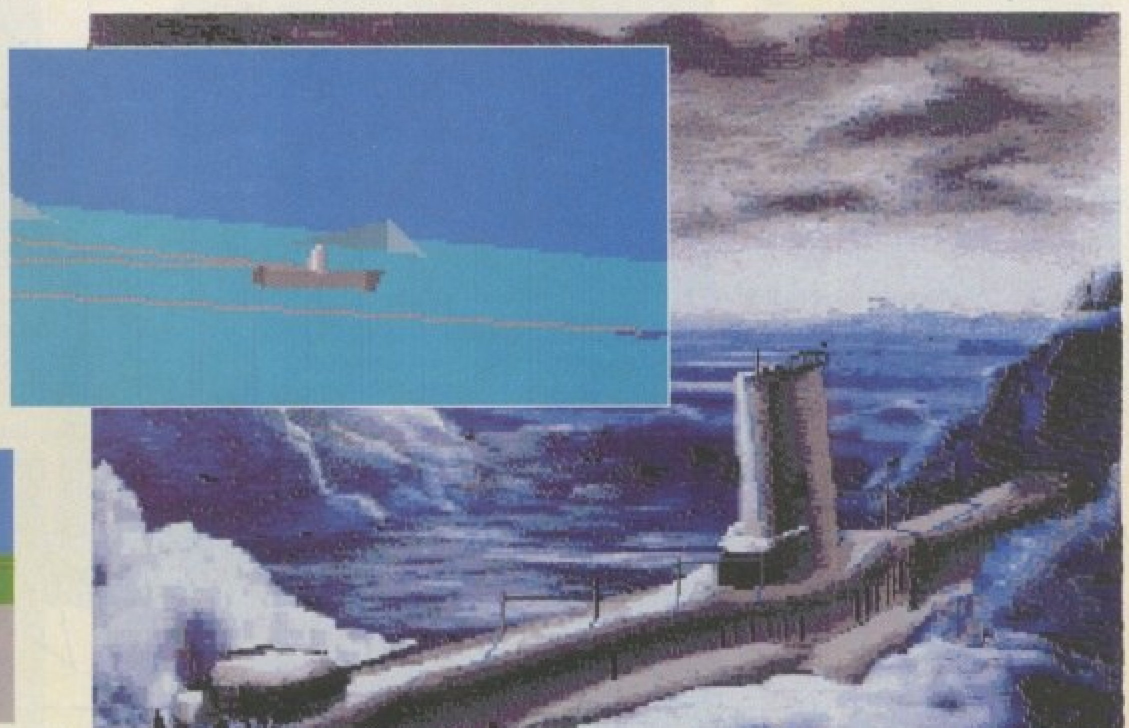
The sounds didn't really impress me. The low drone of the engine is the mainstay of the effects.

Gameplay

Despite the smart presentation, the game came with meagre instructions. MiG-29 doesn't live up to it's promise of being one of the best flight sims available.







Operation Blue SeaSprite – detect the stranded sub and return to base ASAP!



Invade your enemy's lands and plunder his gold

FEUDAL LORDS

Publisher: Impressions
Price: £24.99

Based in medieval times, Feudal Lords is a strategy-based game which sees you assuming the role of a warmongering king. It is reminiscent of a couple of other software titles on offer.

Having played US Gold's Joan of Arc and Cinemaware's Defender of the Crown, Jacek Bochenski, a Polish programmer, decided he wanted to create a game that featured a little more strategic depth. Aided by Impressions, Feudal Lords is the result of his efforts.

There are four participants, any combination of which can be either human or computer controlled, and the action takes place over the mystical land of Euthrania. The basic idea is to defeat your opponents and gain control of the land, winning the hand of the beautiful princess Maria in the process.

At the start you merely occupy your home territory, but by transferring men from your castle into your army you will be able to invade adjacent areas.

Depending on the strength of your army you should be able to conquer the territory.

Capturing land and defeating the other lords isn't all you have to do. Your subjects will have to be taxed in order to fund your campaigns.

Popularity counts for a lot, and in order to maintain or increase the population of your land you'll have to supply markets, craft centres, churches and castles.

Trading in iron – essential in the creation of weapons – wine and grain also helps maintain a comfortable economic level.

Shrewd lords will forge alliances with stronger or threatening armies. If your army looks a little weak it is possible to plot an uprising in an enemy territory. For those with a little more in their coffers, a quick glance at the other lords will tell which has the fewest bodyguards. If you've enough cash you can hire an assassin to do your dirty work.

The game is played in rounds, the computer randomly deciding the order of play.

Control is mostly by the mouse, but when two large armies confront each other the involved parties take part in an arcade-style battle.

The action continues until one lord remains as the clear ruler of Euthrania.

Graphics

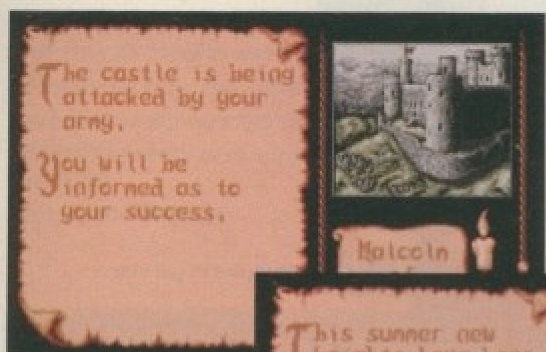
Crisp clean graphics provide the perfect setting for this wonderful strategy game.

Sound

Sparse spot effects make up the mainstay of the sound. Nothing really noteworthy.

Gameplay

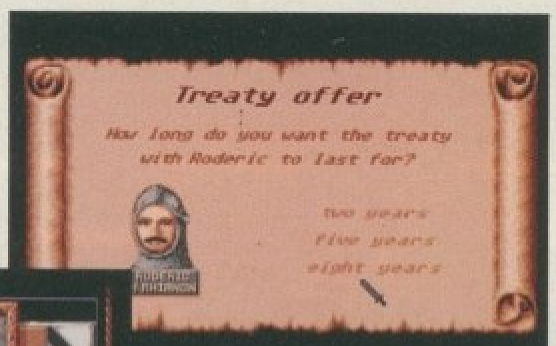
Feudal Lords provides strategy fans with a new challenge. Diehard strategists will find it somewhat shallow, but newcomers and those looking for a release from run-of-the-mill games will revel in the task.



Lay seige to your opponent's castle



Extra knights join your ranks in the summer



Make an alliance with the enemy



Banished, you ride into the night



Save the day and the kingdom's yours



Having finished a level Arnie is whisked away

CAR-VUP

Publisher: Core Design
Price: £24.99

He was resting when I entered the large, windowless room. Oil canisters littered the grimy floor and spiders hung from cobwebs in the farthest corners.

As I took out my notebook, I sensed that I was in the presence of a hero.

Arnie was a special character – unique. Bright red with a smiling face, he was in fact a cartoon car. Just in case you're not an expert on cars who are Toons, they're intelligent, independent, and incredibly cute.

I questioned Arnie about the task ahead and he explained in his soft, gentle voice: "I've got to defeat Captain Grim. He's gone too far this time. I'm gonna get him! I'm gonna demote him! I'm gonna ki..."

I could tell he was keen to get at Grim! Maybe. Let me explain more clearly.

Grim has spread his evil throughout the land and captured a number of Arnie's friends. Arnie has to drive over the ground Grim has desecrated. By jumping from platform to platform, the levels can eventually be cleared of Grim's evil.

However, a number of Loony Toons are intent on preventing you from completing your mission. They roam the many platforms, trying to kill you.

Fortunately you can collect various means of defence by running into icons. These include oil slicks, smoke screens, a gun, mortar bombs, smart bombs and more.

By collecting a specific series of icons you will be rewarded in other ways. B.O.N.U.S. significantly improves your score, while E.X.T.R.A. gives you more lives.

After travelling specific distances you will have a chance to rescue one of your friends before continuing on to the next scenario.

Here the Loony Toons become more frequent, and their level of deviousness increases frighteningly.

With 48 levels and eight different areas to drive through, there are difficult times ahead. Only a Toon of immense skill and stamina will survive to cleanse the world of evil. Only Arnie can defeat Captain Grim!

Graphics

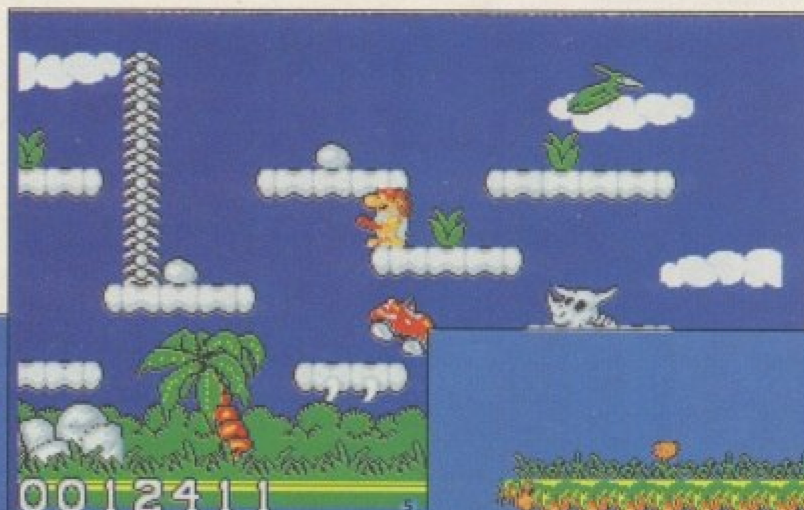
Vast amounts of colour are used effectively and the animation of the various characters is pleasing to watch, despite being a little stiff and unimaginative at times.

Sound

A catchy and spurring tune enhances the gameplay and creates a really fun atmosphere.

Gameplay

Car-Vup is refreshing. The action is a little slow at first, but as you progress it certainly becomes challenging. While initially, Car-Vup excels in being exciting and enjoyable, after a while it tends to become repetitive.



Every monster is out to get you



The building site is packed full of pitfalls



Arnie finds the going particularly tough in prehistoric times



Faultless steering is needed on the loop otherwise this happens!

Graphics

Graphics and screen update are excellent.

Sound

Sound effects aren't so impressive – the tyre screeches, for instance, are less than convincing.

Gameplay

A great improvement on the original, Hard Drivin' II is an excellent racing game. The stunt track offers the greatest challenge, and making your own courses can provide hours of entertainment.

Publisher: **Domark** Price: **£24.95**

HARD DRIVIN' II – DRIVE HARDER

December 1990 heralded the arrival of Domark's conversion of the coin-op smash, Hard Drivin'. The game's programmer was German student, Jurgen Friedrich.

Why the South London software house chose to employ the talents of an unknown was something of a mystery.

However, when it was revealed that Jurgen had programmed Domark's smash-hit Star Wars from memory, the games-hungry public knew that Hard Drivin' was going to be something special.

Ever since it sped up the software charts last Christmas, Domark have been promising a set of data disks.

Hard Drivin' II - Drive Harder has finally arrived, but instead of the expected data disk, it is a complete game featuring a host of extra features.

The basic aim is to drive your Ferarri Testarossa as quickly and skillfully as possible. Control is either by mouse or joystick and the player can choose between automatic or manual transmission.

Hard Drivin' II features six new tracks, each containing a speed track and a stunt course.

Starting from a shared grid, you put your foot to the floor and head down the track, avoiding any vehicles that may be in the way. En route you'll pass a sign inviting you to turn on to the stunt track.

The speed circuit is just a race against the clock. However, if you opt for the stunt track you'll find yourself facing a series of jumps and loops.

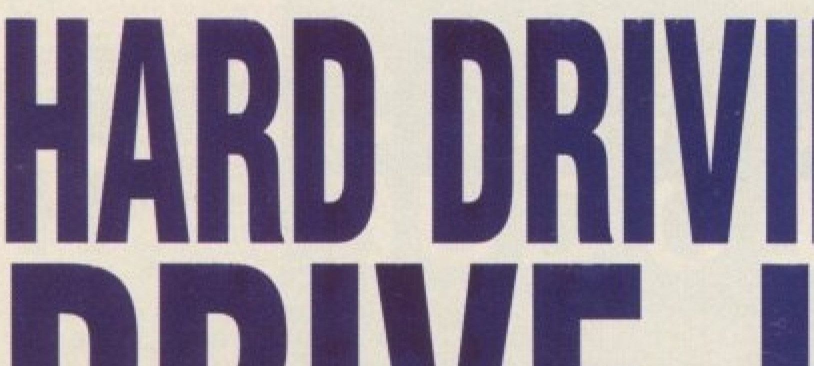
Drivers must reach a checkpoint in order to continue. Doing so will ensure a time bonus and continuation of the race.

Should you prove yourself, you may be called upon to race against the Phantom Photon. Object of the wheel-to-wheel challenge is to beat the Phantom to the finish line so that your driving pattern will replace his in any future encounter.

New features include a two-player challenge, with two computers connected via a serial link-up. The controls have also been improved, and the car is now much more responsive.

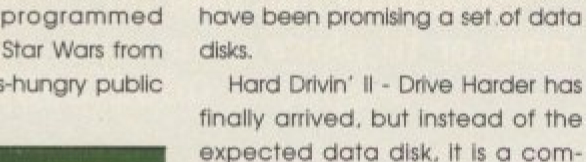
Perhaps the best new addition is the inclusion of a track editor with which you can design your own courses and save them to disk for future races.

Hard Drivin' II is a first rate racing game well worth getting your hands on.



Twitched the wheel at the last moment and missed





Oops!

Watch out for those trucks – they appear at awkward moments

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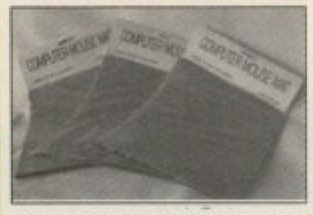
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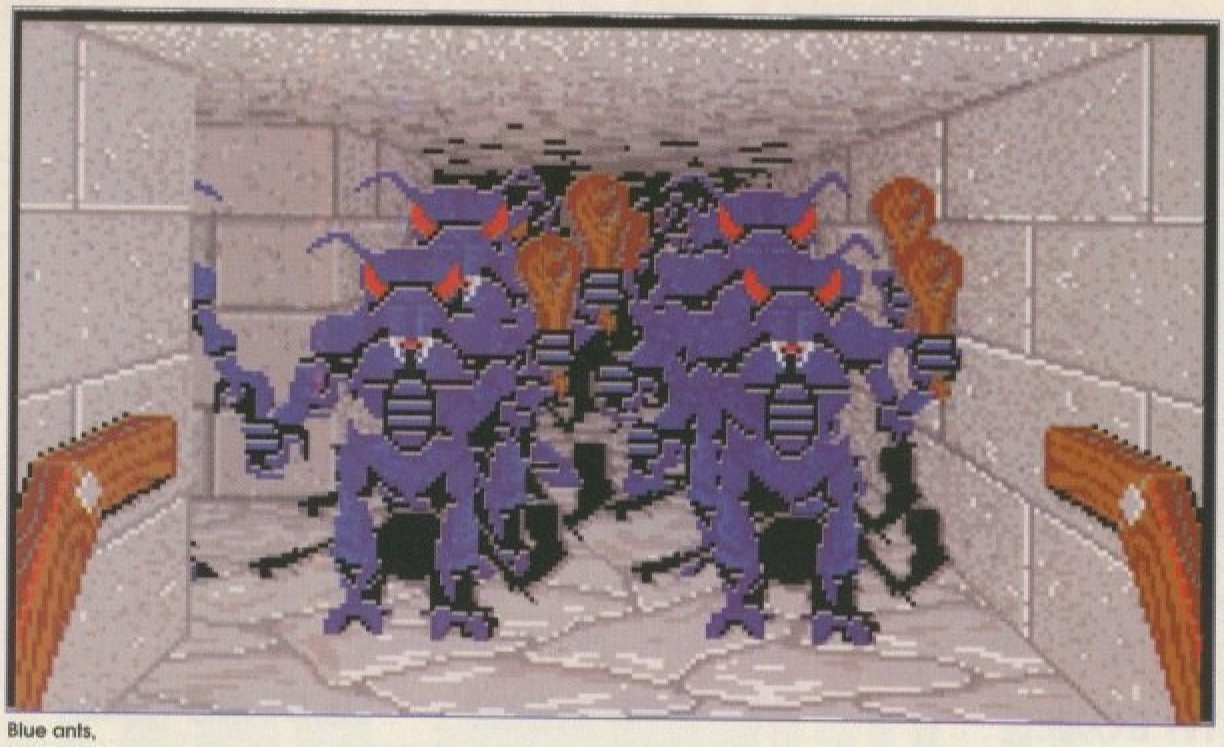
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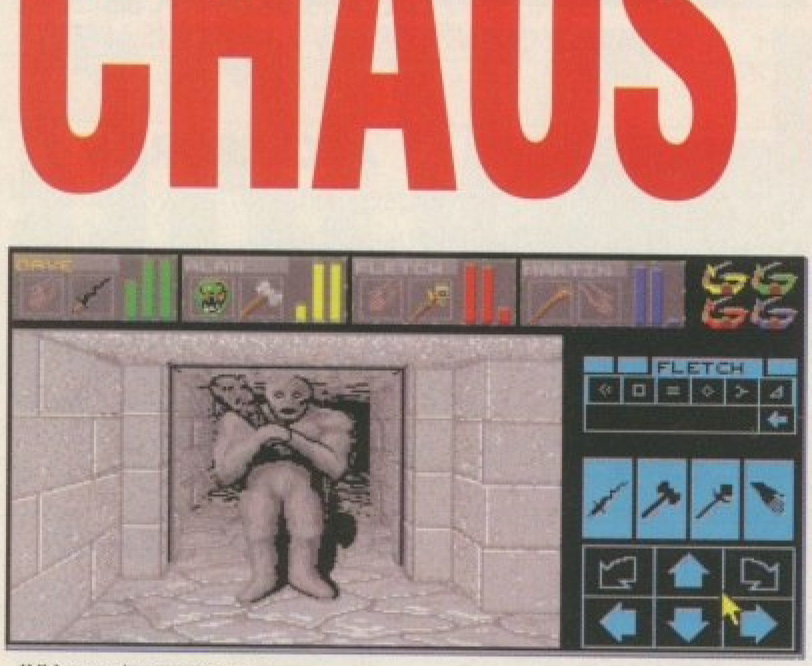


Blue ants,

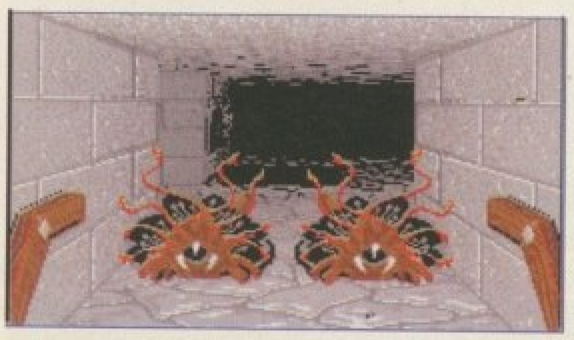


Demons,

CHAOS STRIKES



If this one doesn't stop you...



maybe these will



When the going gets tough...

Having negotiated the dark and dismal passages that ran under Mount Anaias your party finally discovered the resting place of the Power Gem.

Fusing it together with the Firestaff, they had a weapon with which to destroy Chaos.

Ascending to the Dark Lord's chamber, the champions confronted the Evil One. Using the Firestaff to full effect, they put paid to Chaos and his evil schemes once and for all.

A banquet of honour was held in gratitude for the heroes' great deeds. The meek townsfolk of Viborg called for a holiday of rejoicing – all was well with the world.

However, as the age of Chaos drew to an end mysterious rumblings were heard deep within the bowels of Mount Anaias.

It seemed that Lord Chaos had foreseen his defeat and faked his death. Now the unreasoning mind of the Dark Lord had started to plan a hideous revenge against those who had defeated him.

If the world would not yield to his mighty powers, he would destroy it.

Thirteen moons after their victory feast the champions attended the Grey Lord's castle. Met at the gate by their master's apprentice, Theron, the party were told the devastating news. Chaos had appeared in a vision and revealed his plans.

As the Dark Lord put them into action he drew on the Grey Lord's life force. It seemed that Chaos



Your champions and their strengths



Hellhounds



and spiders are all there to block your path to the Dark Lord

S BACK

Publisher: **FTL/Mirrorsoft**
Price: **£29.95**



had constructed a new lair and in it built a Ful Ya pit from which he mined Corbum.

The Dark Lord had placed the ore in a death square surrounded by pits and traps. The champions needed no help in being reminded of the ore's mana-sapping qualities.

It was obvious that Chaos's intentions were to break free of the Grey Lord and rule under a veil of death and despair. The world's only hope lay with the champions.

Could they penetrate into Chaos's lair and dispose of the Corbum before the Grey Lord and Chaos became separated for good?

After months of speculation, Chaos Strikes Back has finally arrived. Unfortunately, as is the case with Dungeon Master, Amiga 500 owners won't be able to participate as the game will only operate in one meg or more.

It comes on a game disk with a second providing a brief storyline, a character editor and a hint oracle.

Players can use either a party transferred from Dungeon Master or venture into Chaos's prison and free an alternative four heroes.

Once a full party has been assembled they are ready to enter the Dark Lord's chambers.

Chaos Strikes Back features some of the monsters found in Dungeon Master plus a whole range of new meanies.

The heroes start with no weapons – the first skirmishes have to be survived with the use of magic alone.

Seasoned explorers will soon find an area known as "supplies for the quick". It is here that you'll be able to equip your team for the terrors that lie ahead.

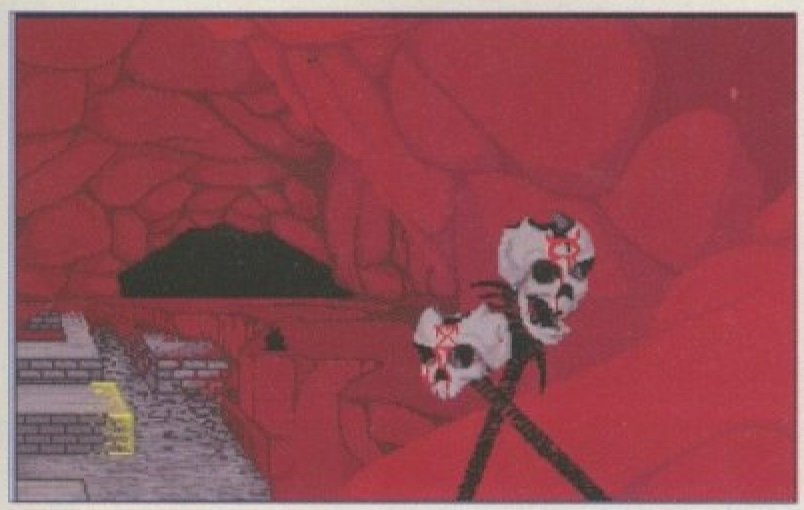
There are four distinct routes to the Death Pillar and the Corbum ore, each designed to test your heroes' skills. These are Ku, the way of the fighter; Dain, the way of the wizard; Ros, the way of the ninja; and Neta, the way of the priest.

At the end of each test lies the Death Pillar from which your party must collect the Corbum ore.

Only when the champions have collected all four pieces of ore will they finally face Chaos. However, if you think that's all there is to it, be warned!

Chaos isn't about to make the same mistake twice, and this time has fortified his lair with some of the meanest nasties going.

It will take an experienced and determined adventurer to dispose of the Corbum and foil Chaos's plans.



Enter the domain of the Evil One

Graphics

As with Dungeon Master, FTL have included incredible attention to detail. The scenery may look the same but the monsters are terrific. All in all, a first-class presentation.

Sound

With stereo sound effects and sampled noises, Chaos Strikes Back sounds almost as good as it looks.

Gameplay

If you liked Dungeon Master, you'll love this. It's generally more of the same, only harder. If you're after value for money Chaos Strikes Back offers hours of frantic gameplay.

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- **UNIQUE INFINITE LIFE/TRAINER MODE - NOW MORE POWERFUL**
Allows you to generate more and even infinite lives, fuel, ammo, etc. Perfect as a trainer mode to get you past that "impossible" level. Very easy to use.
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Simply press a key and the program will continue where you left off.
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- **MUSIC SOUND TRACKER**
With Sound Tracker you can find the complete music in programs, demos,etc. and save them to disk. Saves in format suitable for most track player programs. Works with loads of programs!!

Workbench in Wonderland

Jason Holborn takes an indepth look at the new Amiga OS

Operating system upgrades are nothing new to the Amiga community, but never has one been greeted with the excitement and anticipation surrounding the launch of Workbench 2.0.

And well it might, for virtually every aspect of the Amiga's operating system has been vastly enhanced, to such an extent that a 2.0-based Amiga has become almost unrecognisable from its 1.3-based predecessor.

Indeed, when compared to the increased power and flexibility that Workbench 2.0 delivers, previous OS upgrades were really nothing more than bug fixes!

Up until now the only people lucky enough to be able to run Workbench 2.0 were A3000 users. But Commodore has announced it intends to make the upgrade available to both 2000 and 1500 users.

Unfortunately, the news doesn't seem so good for A500 owners.

Although there is no doubt that Workbench 2.0 would run on an A500 – I've seen quite a few doing so – Commodore seem to believe that A500 owners don't want Workbench 2.0.

Why? An ulterior motive is rumoured. According to Stateside sources, Commodore US recently launched a successor to the current A500 in the shape of the A500-Professional.

It is basically a one meg A500 with both ECS and Workbench 2.0 and it seems almost certain that the A500-P will also be made available in this country, although Commodore UK still refuse to acknowledge its existence.

Until it does arrive it seems that A500 owners may well be left in the lurch. If you feel strongly opposed to this, then why not write to Commodore asking for Workbench 2.0 and ECS to be made available for A500 owners?

No details of the upgrade procedure were available when *Amiga Computing* went to press, but as with 1.3, it will almost certainly require you to take your machine to a Commodore approved service centre, who will carry out all the necessary work.

This will involve the fitting of the new 512K kickstart ROM and, if you want to go all the way, it will also be possible to have the new Enhanced Chip Set fitted.

So you've finally taken the plunge and you're now the proud owner of a 2.0-based Amiga. No sooner do you switch on your machine, than the changes will become immediately apparent.

For starters, if you don't have an autobooting hard drive you'll see that the 'Insert Workbench' prompt has changed. Instead of the old familiar hand holding a disk, Workbench 2.0 now boasts an animated display of a floppy disk being inserted into a disk drive.

However, the major changes don't become apparent until you boot up your machine. Instead of the rather flat Workbench of old, version 2.0 has been totally redesigned and has a far more professional look and feel.

The default colours have changed. Instead of the familiar blue, white, black and orange, the Amiga now defaults to a less eye-straining grey, black, blue and white.

This looks particularly good on a multisync, although it does seem to blur into an unreadable mess on a TV.

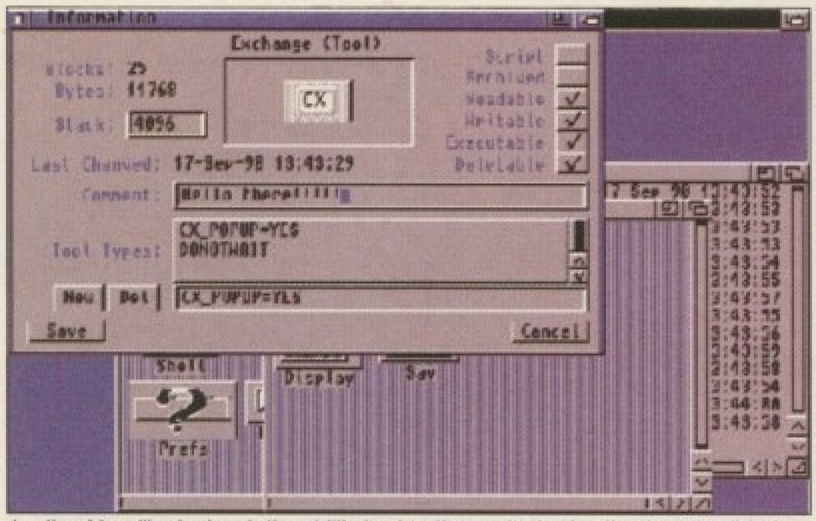
Rumour has it that Commodore drafted in an artist's services to redesign Workbench, and this certainly seems the case. The new Workbench features a sort of metallic embossed look, with all gadgets raised to give the whole affair a sort of 3D look.

Even icons are now displayed within their own raised box, which can make selecting them somewhat easier.

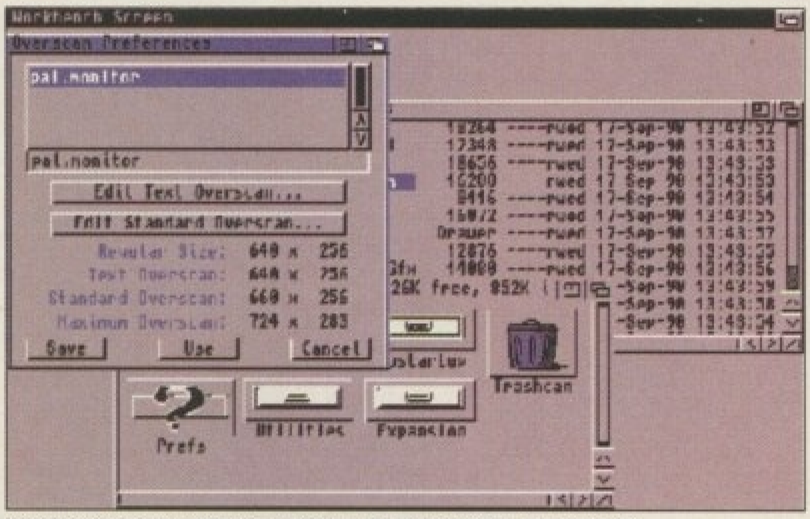
The Workbench disk icons are now held within a window that can be dragged about, resized and depth arranged like any other window.

This is a far better approach, as





Another Mac-like feature is the ability to view the contents of a directory as a list of files. This also displays extra information such as file size and creation date



Workbench 2.0 now allows you to change the screen mode without having to reboot your machine. If the Enhanced Chip Set is installed, you can also use its new productivity screen modes

you can now access them while other windows are open by just bringing to the front with the depth arrangement gadget.

The window gadgets themselves have also changed quite a bit. Instead of the two depth arranging gadgets on previous versions of Workbench 2.0, windows now have a single depth one, which carries out the same job.

When a window is obscured by others a single click on this gadget will bring it to the front. Click again and it is sent to the back. Next there is a new zoom gadget which, when pressed shrinks a window to its minimum size. Click again and it restores its original dimensions.

The zoom gadget allows you to tidy up your Workbench window by shrinking those windows that you do not immediately need. When required they're just a click away.

Double click on a disk icon and you'll see another major change – Workbench 2.0 windows now display the total amount of disk space used, available both as a percentage and as bytes, along the top of each disk window.

The clucky old fuel gauge has been removed, thereby giving you a much better idea of a disk's state. The Workbench menus have undergone a massive amount of change as well and now contain genuinely useful options. Many have been included to reduce the need for the Amiga's CLI. It is now

And then some...

The enhancements offered by Workbench 2.0 are so numerous that it would be impossible to document them all without taking up considerably more space than we have available. Here's a quick run down of a few other features:

ERROR HANDLING: The infamous Guru has been laid to rest. Workbench 2.0 now has an improved error handler that traps software failures before they can do serious damage. If a task does go haywire you can now choose to kill it and then start working again.

FAST FILE SYSTEM: Previously restricted to just hard drives, the Fast File System has now been moved across to floppies. Reading and writing to floppies is now noticeably faster.

AREXX: William Hawe's acclaimed interprocess communications language greatly enhances the Amiga's multitasking facilities to allow applications to communicate with each other. Data can be shared and applications can even control other applications currently running.

UTILITIES: Quite a few changes have been made within the Workbench Utilities drawer. For starters, the NotePad has finally been killed off.

In its place are two new utilities – Display, an IFF picture viewer and Commodities Exchange, a mouse and keyboard event controller.

In addition, there are a number of tools that take advantage of Commodities Exchange including AutoPoint, which automatically activates windows as the mouse pointer passes over them, and Blanker – a screen blanker.

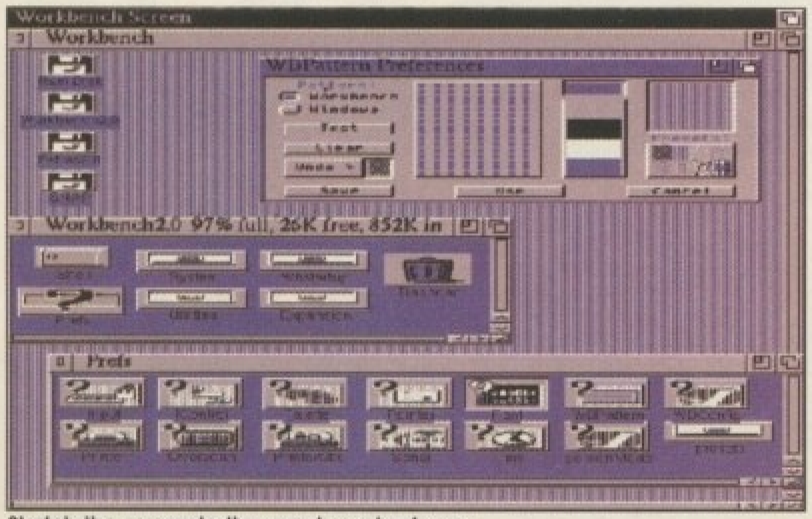
Extras: The Amiga Extras disk has also changed a bit. One of the most important additions is an all-new icon editor, IconEdit, which is a vast improvement over Commodore's last effort.

The new editor has been completely rewritten and includes many DPaint-like drawer tools for the easy creation of good looking icons.

You can also load and save icons as IFF brush files, so you're not just limited to the tools that IconEdit provides.

One very nice feature of IconEdit is that you can load existing icons simply by dragging them over the IconEdit window. Using a new self-notification facility, IconEdit will then load the icon in ready for editing.

Rumour has it that Commodore may well upgrade AmigaBasic. No specific details were available, but it seems almost certain that it will at least upgrade AmigaBasic's file operations to take advantage of the standard system file requestor.



Stretch the screen to the very bounds of your monitor with the Workbench overscan tool

Tools for programmers

In order to encourage programmers to produce applications that share a common user interface, Commodore have developed a number of built-in tools.

These include a gadget toolbox that provides programmers with a simple way of using the standard system gadgets within their own applications.

Commodore have built in several new types of gadget which can be seen in use in many of the programs distributed within Workbench 2.0.

There's also a new ASL.library which provides standard file and font requestors. Commodore hope that these tools will encourage programmers to develop applications that feature a more consistent user interface.

Software compatibility

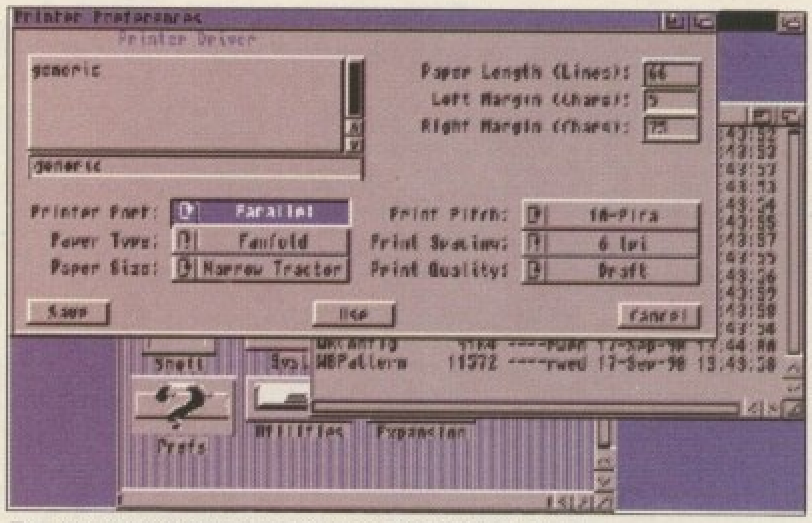
Compatibility is very high. Inevitably though, some programs don't like the new OS. These are generally older ones written back in the days of 1.2, although quite a few PD programs have also bitten the dust under 2.0.

On the whole, programs that follow Commodore's guidelines will work.

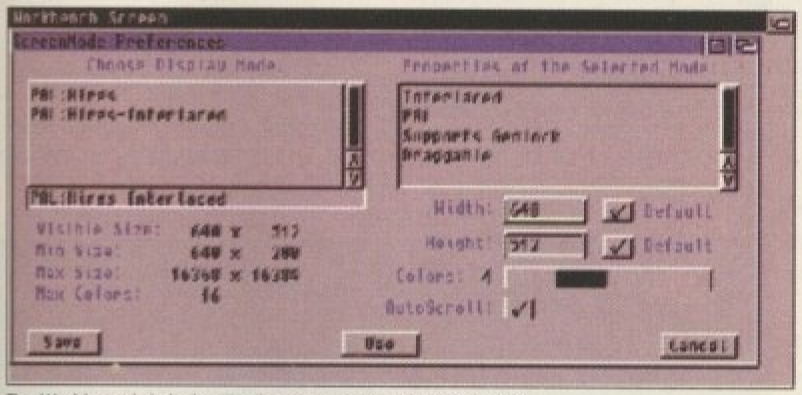
Developers have a habit of blaming Commodore for such incompatibility problems, but they have only themselves to blame for not following programming guidelines.

The A3000 has a 1.3 fall back mode, which is a very good idea indeed. I'm not sure whether this will be a permanent feature, but it would make an awful lot of sense to leave it in because of the amount of incompatibility between the new OS and older software.

Eventually most of these programs will be upgraded to be 2.0-compatible, so this isn't too much of a problem.



They may look different, but many aspects of Workbench 2.0 Preferences are almost identical to their 1.3- predecessor



The Workbench Info facility has certainly improved a bit!

possible to carry out many operations which were previously thought CLI-only.

Hidden away within the pull down menus you'll find an Execute Command option.

When selected, a requestor pops up which allows you to enter a command just as you would within the CLI.

If the command outputs to the console device Workbench will even open a window so that you can interact with the command as it runs.

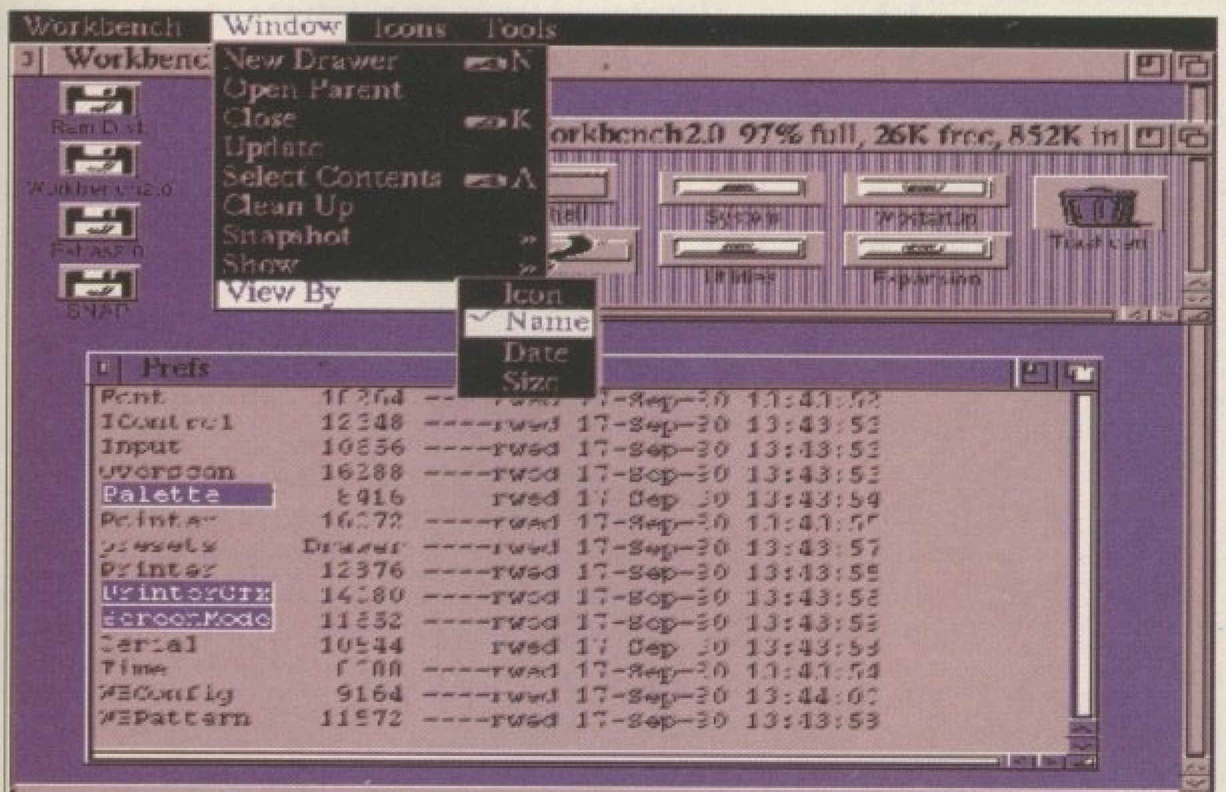
If you do decide to plunge down into the CLI you'll notice that the Amiga's NEWCON device has been moved into ROM, so there's no need to mount it first.

Even if you drop down into the CLI when a disk starts to boot you'll always have both command line history and editing.

There are a couple of new commands, although neither are major. Most of the existing ones have been rewritten for speed and compactness. Some have extra arguments.

You'll also notice that some commands have gone – CD for example. The reason for this is that a limited number of CLI commands have been moved into ROM, so you can carry out rudimentary CLI operations without having to re-insert Workbench each time.

The aged StartUp-Sequence is



Drag any icon over the IconEdit window and it is automatically loaded

ECS info

Along with the release of Workbench 2.0, you'll soon also be able to upgrade your machine's graphics capabilities with the much talked about Enhanced Chip Set (ECS).

Once again, A3000 users already have this, but the rest of us will also be able to join in the fun very soon. The ECS upgrade offers a number of enhancements including new screen modes, a more capable blitter and an increase in the amount of memory that can be set aside as chip RAM.

Among the new screen modes are several new high resolution – up to 1280x400 pixels – non-interlace modes. Unfortunately, these can't be displayed on a standard Amiga monitor, so you'll need to invest in a high quality multi-sync if you wish to take advantage of them.

Once again, upgrading to ECS will require you to return your machine to a Commodore approved service centre. Cost of the upgrade is unknown, but it seems almost certain that it will be £100+.

However, if your machine is fairly recent, chances are you already have the ECS Agnus chip fitted, so the cost of upgrading may be reduced a little. All revision 6.2 B2000s have them, as do all 1500s and a large number of A500s.

If your machine was bought new within the last nine months you almost certainly have the ECS Agnus already.

still there, but you no longer have to touch it if you wish a program to be executed during start-up.

Instead, Workbench 2.0 has an all-new WBStartUp drawer that is a little like the Auto folder on an ST. If a program is dropped into this drawer it will be executed automatically during start-up.

One of the main problems of the old Workbench was that you could only see those files and directories that had their own icons – .info files.

The same is true to a certain extent, but it's now possible to reveal all those hidden files. By selecting Show All Files from the pull down menus, the Amiga will create icons for all files that don't already have them.

In this way it's even possible to view the contents of the C directory from Workbench.

In true Mac-fashion, you're not just restricted to viewing icons from Workbench. You can now see the contents of a directory as a list of files. Like their icon-based counterparts, you select them by clicking on the appropriate filename.

Quite a few features have been imported from the Mac, in particular, the multiple selection of icons. You can now drag a rectangle around a group of icons to select them all.

They can then by moved about en mass by holding down the shift key.

Most programs within Workbench 2.0 have been upgraded, but none so much as the Amiga Preferences. Instead of just a single Preference program, there are now 14 different programs.

There are the usual Pref programs to carry out standard operations such as changing the screen colours, editing the mouse pointer shape and installing a printer. Also a few programs take advantage of the new Workbench facilities.

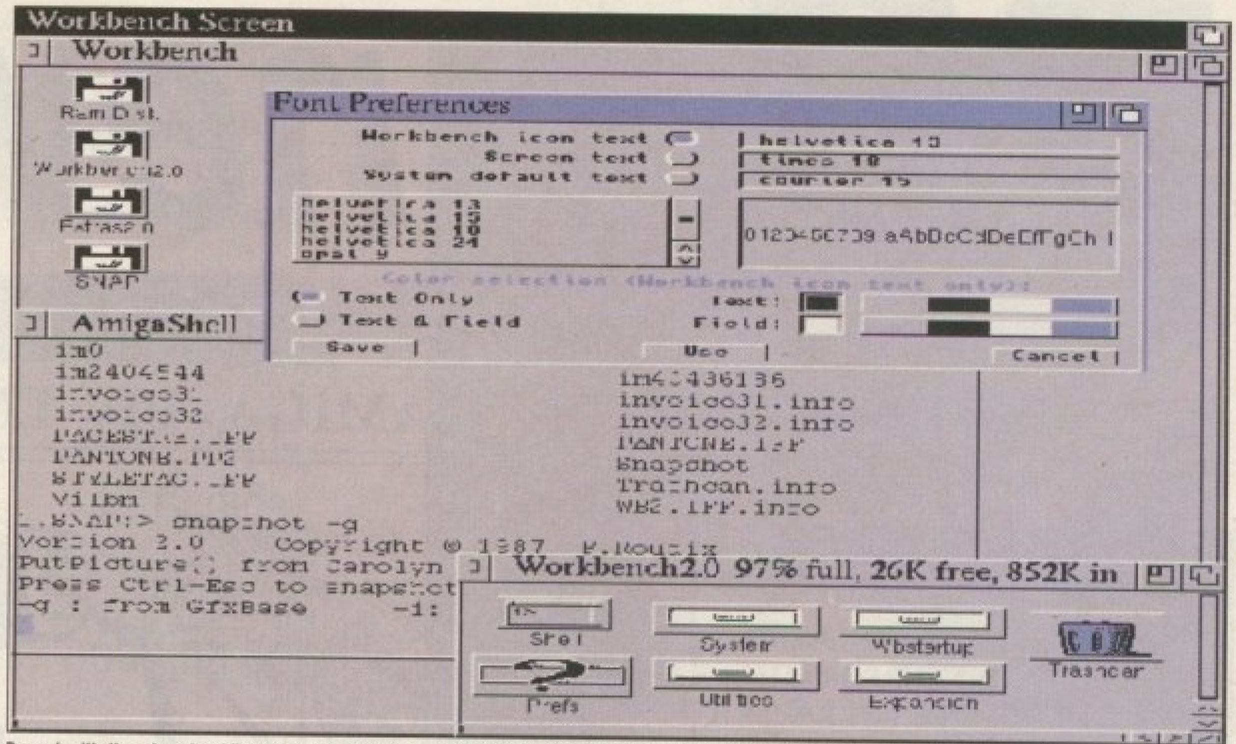
You can now change the system font to any of your choice, including proportional fonts, and even drop a pattern behind the Workbench and directory windows. Once again, very Mac-like.

Unlike previous Workbench releases, you can also change the Workbench screen mode, including the number of colours, without having to reboot each time.

You can switch between high res and high res interlaced screen modes, plus a number of ECS-specific productivity modes if ECS is installed. Not only this, but you can even have an overscanned Workbench screen.

Workbench 2.0 is quite simply the most revolutionary thing to happen to the Amiga since the launch of the machine itself. The amount of extra power and ease of use that it provides is so great that the Amiga is totally transformed.

Workbench is now a powerful tool in itself that virtually removes the need to learn the complexities of the Amiga's command line interface. If you are able to upgrade your machine, then stop at nothing to get 2.0 as soon as possible.



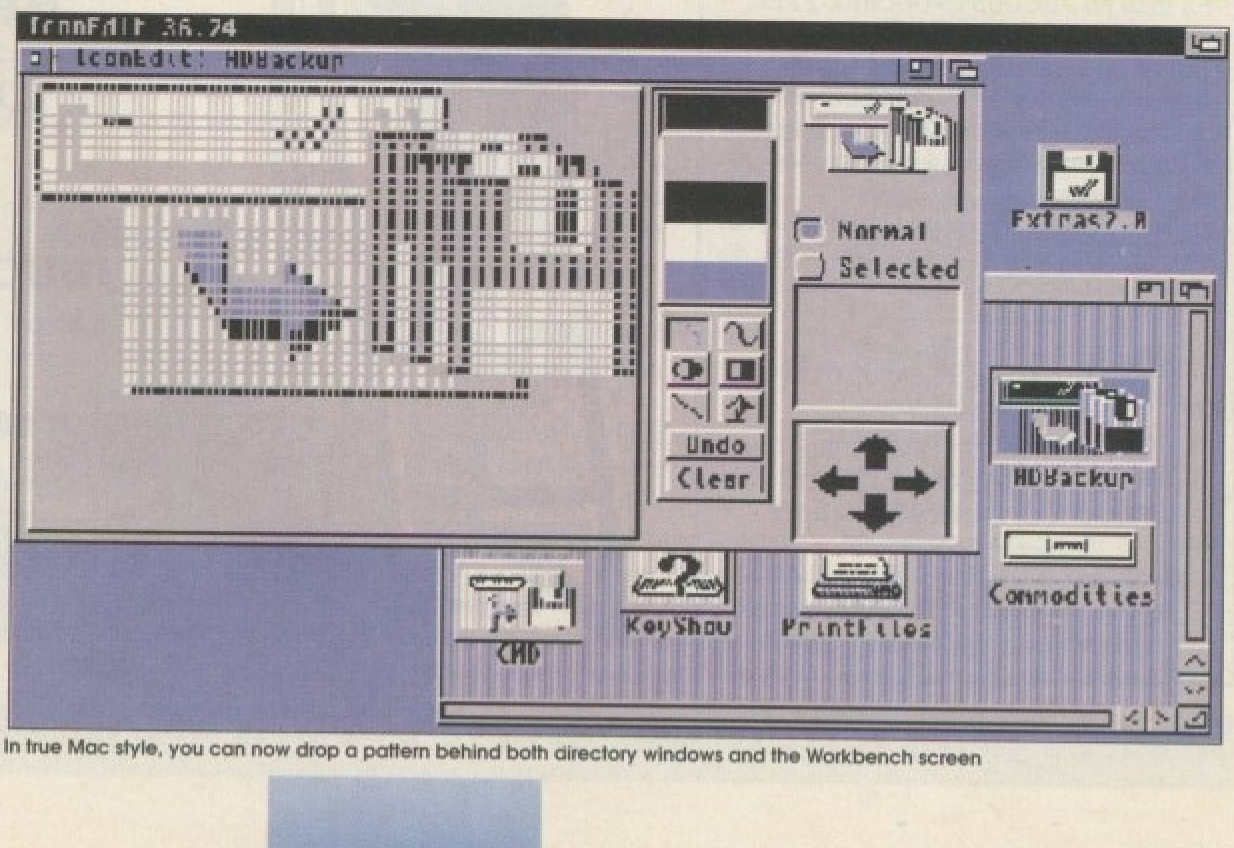
Bored with the standard Topaz font? With the new Preferences Font tool you can change the system font to any of your choosing

The future

Even with the release of such a major upgrade, already there's talk of further upgrades in the pipeline Workbench 3.0 perhaps?

Developers are talking about what these upgrades will include. Here's a quick rundown of what to expect.

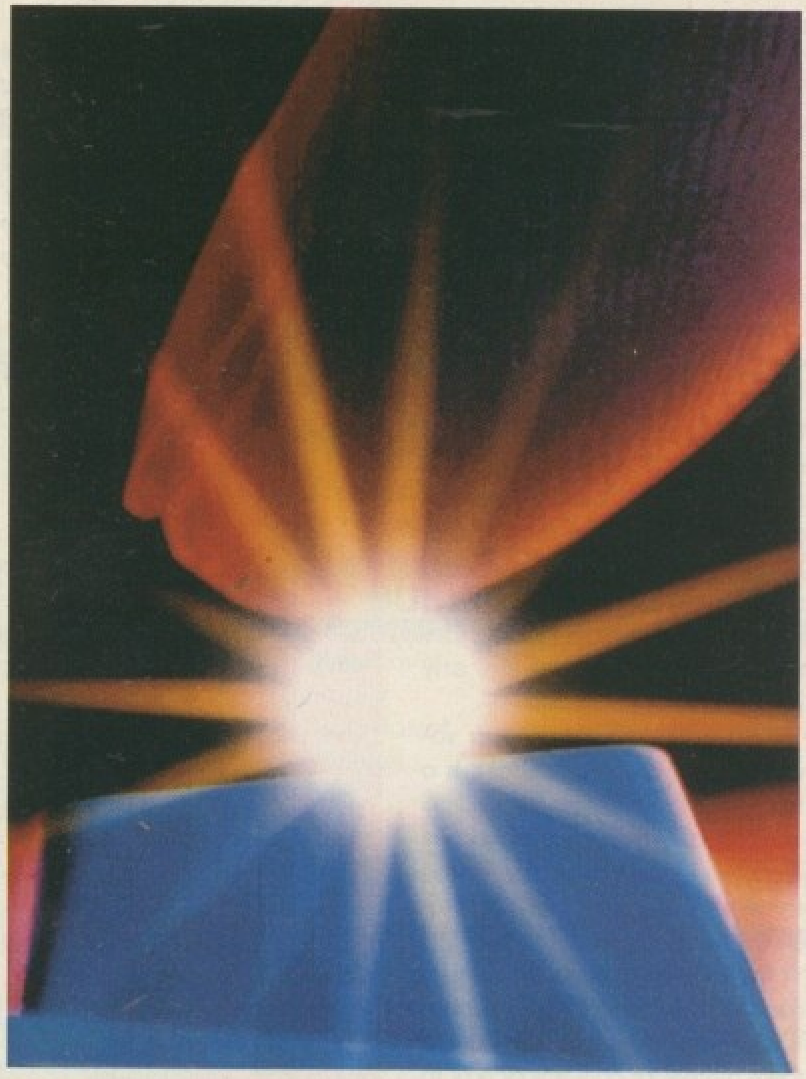
- High density drives: Rumours are rife that Commodore may upgrade the Amiga drives to support high density disks capable of storing 1.52 Mb of data. Already a third party developer has produced a high density drive that they claim is compatible with Commodore's forthcoming driver software.
- Outline fonts: The new disk font library includes facilities to scale bitmapped fonts automatically to any size, but it is believed that Commodore will eventually build in support for Compugraphic Outline fonts like those used by Gold Disk's Professional Page DTP program.
- Virtual memory: This is a system whereby hard disk storage space can be treated as RAM by applications that require more memory than that available in the machine they are running on.



In true Mac style, you can now drop a pattern behind both directory windows and the Workbench screen

CLI chops and changes

Customise Workbench and make it your own. Stevie Kennedy adds some furry dice and a nodding dog



The great thing about Workbench is that it gives every Amiga user the choice of an individual working environment. The degree to which it is user-configurable is really only limited by your programming skills, but even a beginner can ring the changes without resorting to C or machine code.

The Workbench disk you received with your Amiga is packed with as many utilities and system files as possible. But very few owners will need to use them all, and a surprisingly small number are necessary to get a Workbench up and running.

If you know which these are, and can mess about with startup-sequences, you're well on your way to a fully customised system disk.

Demolition job

First, take a copy of your original Workbench disk and prepare to hack it down to size. You will need to retain the essential system files as detailed in the table on the next page, but the rest are a matter of preference.

The table also contains some files I'd recommend you to keep on the disk and gives brief reasons why, but do as you please with them.

You'll have noticed by now that if you FORMAT a disk all you get is an empty shell with a trashcan bearing an icon. This is all very well for data disks, but won't do if you want a bootable system disk.

Just because you've made it into an AmigaDOS format disk doesn't mean it contains any AmigaDOS!

If you started from here you will have to MAKEDIR as many directories as required and then copy from the table the necessary files into them from a Workbench disk.

But starting from a full copy of Workbench you'll have to delete piles of stuff and one or two drawers into the bargain – remember, you can't DELETE a directory until it is empty.

The main advantage of the latter method is that you can retain the icons you need, whereas building from scratch requires you to make new icons or copy them across from another disk.

If you haven't got IconMaster you can use Huge from last month's *Amiga Computing* coverdisk to create a few icons.

I recommend this to all but the least adventurous. The process can be long and tortuous at first, but there is great satisfaction to be had from clicking on your own designer icons. Both methods are time consuming, but have the advantage of being thorough and methodical.

If you'd rather save time, just take a copy of the coverdisk and use extended selection – hold down the shift key while clicking on all the icons – to discard all the drawers at once.

You will now have a bootable disk with some basic AmigaDOS files already present, and you can fill it up with the missing ones as you go along.

Whatever your chosen route, you should now have arrived at the point where you have a system disk that will boot-up and load a Workbench. Its contents, and whether or not they show up as icons on the Workbench screen, will depend on how you have put it together.

In general only include icons for executable files such as utilities and drawers. It is possible to iconise documents if you set the tool types to your chosen text editor or viewing program, but it's less hassle to type MORE THINGY.DOC, for example, than to mess about putting icons on everything.

Just make sure you've got them for everything that should run from Workbench.

A basic startup-sequence

```
C:SETPATCH
ECHO " "
ECHO "This is MY system disk"
ECHO " "
ECHO "And this is MY startup-sequence"
ADDBUFFERS DF0: 10
RESIDENT CLI L:Shell-Seg SYSTEM PURE ADD
MOUNT NEWCON:
SYS:SYSTEM/SETMAP gb
PATH RAM: C: SYS:SYSTEM ADD
LOADWB
ENDCLI >NIL:
```

Startups for starters

One of the great AmigaDOS mysteries for beginners is the startup-sequence. You will find this mythical beast in your S: directory, and you can bring it up on screen using ED S:STARTUP-SEQUENCE while in CLI.

Look at it carefully, wonder at its strange and exotic terms, then delete it.

Yes, I did say delete it. There's no

point in going through it command by command, so we'll make one of our own. Just press ESC and D until the whole lot is gone, then type in the startup-sequence shown in the panel on the previous page.

Once that's done, press ESC and SA to save the text, then sit back and take a close look at what we've constructed.

Every time you boot up a disk, the first thing your Amiga looks for is a boot-block. If it is a standard AmigaDOS boot-block, the computer goes straight to the S: directory if it exists and executes the startup-sequence.

S:startup-sequence is therefore the first essential file on any bootable AmigaDOS disk.

A startup-sequence is a so-called script file. This means it is a text file made up of AmigaDOS commands, which the Amiga interprets one line at a time in much the same way as a simple BASIC program.

The original Workbench startup-sequence is quite long, but contains many commands that are there merely for convenience or to configure the Workbench to a particular need.

You needn't worry about anything which falls outside your AmigaDOS knowledge for the moment. Just add your own lines to the startup as you become more familiar with the system.

What does it mean?

The first command I've used is SETPATCH. This isn't really essential, but as it cures the known bugs in Workbench it should always be in your startup-sequence.

For simplicity, I've just typed in the command, but you can alter it by adding >NIL: to the line. This redirects any output resulting from AmigaDOS operations to the null device and saves messing up the CLI window with spurious messages.

The next four lines are ECHO commands, which are AmigaDOS's primitive PRINT statement.

Blank ECHO statements result in blank lines being printed to separate your startup messages from each other. You can add asterisks, hyphens and other characters to construct boxes, or highlight your message to create reasonable effects. The ADDBUFFERS command puts aside 512 byte chunks of memory, which the system uses as a cache to speed up disk operations.

It works in much the same way as a printer buffer and will increase your floppy's efficiency up to a point. A total of 10 buffers – about 5K – have been allocated to the internal floppy.

This is about the right figure. Any more would be pointless as you'd get little extra efficiency for the memory used.

The next two lines are optional depending on whether you want to use the Shell instead of a standard CLI. The differences between the two will be covered later in the series, but for the moment you might as well activate and MOUNT the Shell using these two commands – everything in the series works equally well from Shell or CLI.

The first line makes the Shell-seg control routine resident on the system part of the resident commands list under the name CLI. The second mounts the NEWCON: device handler.

The remaining lines up to LOADWB complete fairly straightforward tasks. SETMAP will tie the keyboard down to whatever map you prefer. For our purposes this is the gb or British map.

The PATH command, as discussed last month, sets out the path through which AmigaDOS will search for a command before giving up. I've restricted this to the three main areas, but you may need to add more once the disk fills out.

Finally, LOADWB will bring up the Workbench screen, and ENDCLI will close the CLI window in which the startup-sequence was running.

You don't need to close it, of course, and our coverdisk leaves one open for you, but it's neater if it closes automatically.

Now the moment of truth. If your disk has all the files from the table, and the startup-sequence has been saved to your S: directory, you should be able to boot-up from the disk you've just constructed.

If it works, congratulations on clearing one of the biggest obstacles facing the CLI beginner.

If it doesn't, don't despair. Check that the disk has a standard boot-block using INSTALL DF0: CHECK, then make sure you have all the table files and an S: directory with startup-sequence. You will find the problem in one of those areas.

You can now go ahead and fill up the disk with utilities or program files. For example, if you're one of those people who compile disks of their favourite PD stuff, you will find that the sort of disk we've constructed is ideal for your purposes.

There should be about 350K free disk space now, and there's a lot more available if you decide to skimp on some of the C: directory entries. ENDCLI.

Essential directories and files

Directory Name	File Name(s)	Explanation
C:	All	You don't really need all the files in this directory, but it is best to keep all the AmigaDOS commands it contains
DEVS:	System-configuration	This contains your preferences settings
	Parallel and serial .device handlers	You'll need these if you want to use a printer or any other device attached to one of these ports
	mountlist	Contains details of any device you need to MOUNT, such as the NEWCON: device for the Shell
	Keymaps sub-directory with gb keymap file	Enables the British character set on your keyboard
	Printers sub-directory with appropriate driver	Choose ONE printer driver for your particular machine
L:	All	Control various devices and system functions
LIBS:	Icon.library and info.library	These library routines are essential if Workbench is to read icon files and provide information on them
PREFS	Preferences	Allows control over screen colours, the pointer, and printers. A large-ish file which is not essential but nice to have around
S:	startup-sequence, CLI-startup Shell-startup	You can't boot-up without the first one, and the latter two govern how CLI and Shell are started up
SYSTEM:	CLI and SETMAP. FORMAT and DISKCOPY	CLI is a must, and SETMAP has been used in the startup. The others are optional
UTILITIES:		Ditch this completely unless you're incredibly fond of one of the utilities. The only one you might be advised to hold onto is MORE, and this can go in the C: directory.

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Fantasy II	Nasa Digipixs I
Fantasy III	Nasa Digipixs II
Fantasy IV	Disney I*
Fantasy V	Countach Fantasy I
Fantasy VI	Countach Fantasy II

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* = Requires 1 Meg
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All the world's

Nick Veitch brings you a clash of the desktop titans

If you are thinking seriously about fully-fledged publishing power on an Amiga there are really only two contenders at the moment, both from the other side of the Atlantic.

They are Professional Page 2.0 from Gold Disk, who publish a wide range of professional Amiga software, and Pagestream 2.1 from Soft-Logik who are perhaps more notable for their work in the ST field.

Gold Disk's low-end DTP package, Pagesetter, has been on the market for years and a continual policy of updates has left it and its big brother in a fairly usable state.

The original version of Pagestream was little more than a runoff type application rather than a fully featured DTP system but a few dramatic updates have brought it into the professional range.

Pagestream 2.1

Before you start Pagestream you have to be sure of a few things. How much memory do you have? How big is your document going to be? Are you likely to need lots of on-screen colours?

The reason you have to make these decisions now is because it is not possible to change screen modes once the program is running – slightly annoying to say the least.

During the layout of a document you may wish to change to a better resolution or more colours for a quick peek before getting back to some serious column crunching. This isn't possible with Pagestream.

Mind you, it does offer a wide range of screen modes, including an excellent Workbench mode where the document screen and menu bar overlay the Workbench – very handy for multi-tasking.

Then again, these DTP packages use so much memory and processor time that you would be very lucky to get any other substantial package running. No 3D rendering as a background task, I'm afraid.

Memory management is very important if you are running on a limited system and it is something which Pagestream doesn't handle awfully well.

If you are getting near the end of a session and run out of memory just before placing the final graphic you are in trouble. There is no question of shutting down a few bitplanes or anything – you just have to save, quit the program and run it again in a less demanding mode.

Another piece of annoyance is that to run Pagestream in anything but default mode – four colour interlace – you must initiate the program from the CLI.

Once up and running the pain begins to ease. Page creation is nicely handled with a host of gadgeted standard sizes like A4, manual, business card and, of course, a custom size selector.

Viewing the page reveals another wealth of options. Being able to view even the oddest shaped page at full screen size is a great advantage, as is the user definable zoom – excellent for checking that those itty-bitty little hairlines *do* actually match up.

There is no doubt that this is a lot more useful than the four set levels of magnification offered by Pro Page. It seems a little slower though.

Templates and grids are well handled. I particularly like the way that user-defined guidelines can be superimposed on the page simply by clicking on one of the edge rulers.

It is only slightly spoiled by the fact that it is seemingly impossible to specify at exactly what distance down or across the page these lines will appear other than by means of the mouse.

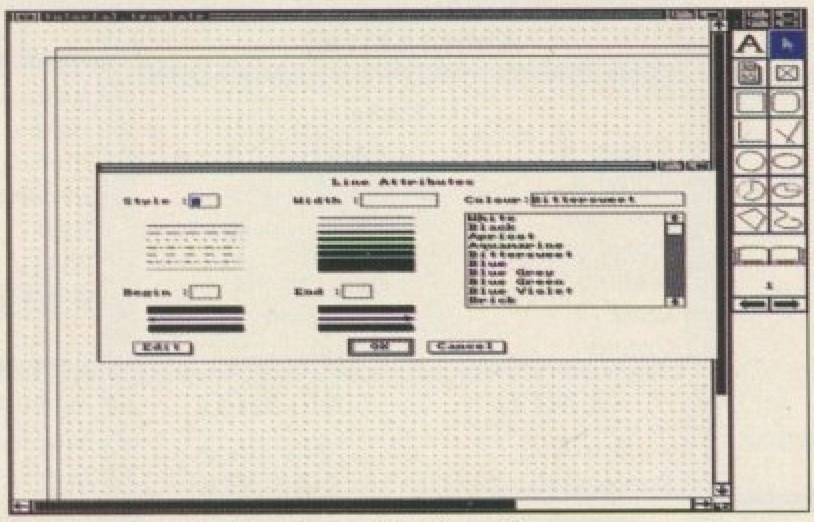
This is a shame, because these are exactly the lines that you want to be as accurate as possible. If you are going to judge them by eye with the mouse then you might as well lay down the whole document by eye and forget about them.

Around 60 per cent of the average published page is covered with text. Fonts must be important then. Pagestream is odd in that it uses three types of fonts – bitmapped, Compugraphic and its own proprietary system.

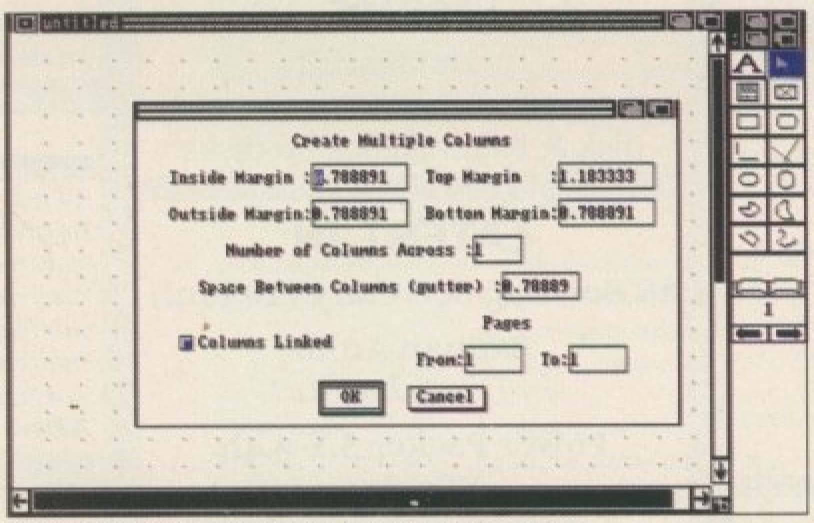
These are quite cunning in that they are both outline and bitmap fonts simultaneously.

At low resolution the bitmap is used for speed – no more agonising refreshes – while an outline is used before the jaggies start to bite.

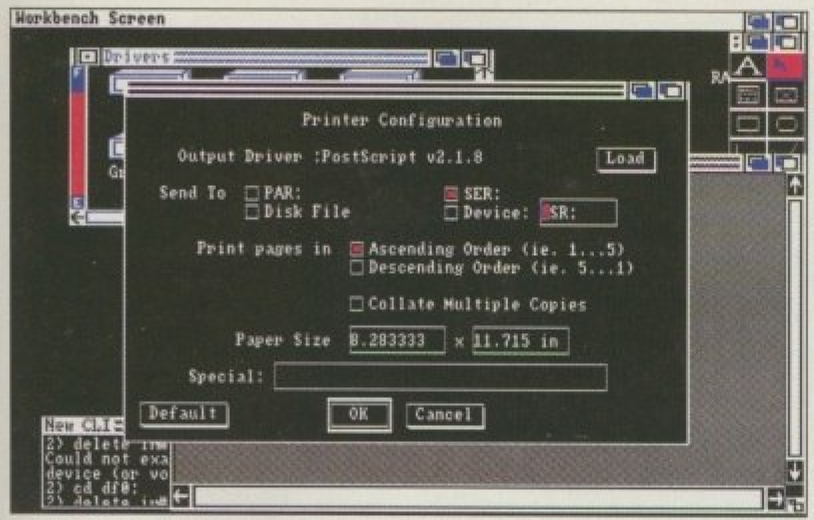
The outlines are slightly faster because they contain no *hints*, which are used by scalable fonts to give the vectors a nudge in the right direction under extreme circumstances of scale, mostly at



Line styles in Pagestream include some interesting endings



Auto columns are possible in ProPage and here in Pagestream



Pagestreams printer requestor. Drivers must be loaded from the Pagestream disk

sizes below 14 point. The pure vector approach of Soft Logik's fonts gives a speed increase but slightly reduced quality in printing.

Printing times are also greatly increased, since the Soft logik fonts must be downloaded when postscripting, whereas most of the Compugraphic range will already be onboard any PS printer.

Unfortunately when it comes to dealing with text on screen the font menu is a bit of a let down. When Fonts/points is selected from the menu the selectors default to whatever font happens to be at the top of the list.

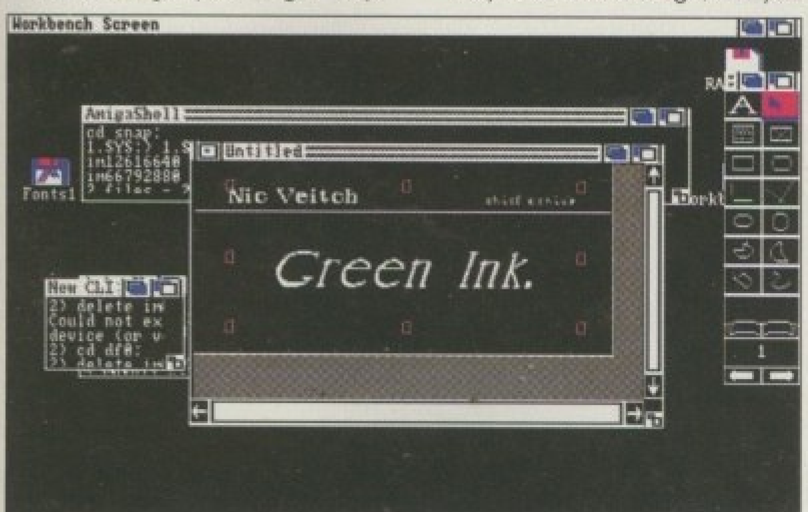
Fair enough you might say. Normally yes, but the menu *always* defaults to this font, even when you have highlighted text in a completely different style, size and typeface.

Basically this means you have to have a good memory – there's no other way of knowing which font is which.

The font management system is very effective as it can draw from fonts from many different drawers and devices simultaneously.

It was while setting up a convoluted system of font paths that I noticed the rather odd file requestors.

They work well enough, but you



Pagestream even allows a Workbench mode for the memory deficient

's a page

Hardware wear

There is a minimum requirement of 1Mb to run either of these two packages. In fact a solitary meg is scarcely enough if you wish to use graphics and the Compugraphic fonts.

Unfortunately this means that even if you do get a couple of megs slotted into the expansion port you will still be limited by the supplies of chip RAM available.

Perhaps it is time to make that "fatter" Agnus conversion. This is not so much a problem if you have a nice A3000 of course...

Pro Page used to be criticised strongly for erratic behaviour when confronted by diminishing memory.

This is now mostly cured thank goodness, and although not completely trustworthy it is at least as reliable as Pagestream which has also been known to freeze up on occasions.

Both systems will run off a single floppy system, although Pagestream, which comes on four disks, required notably more disk swapping during operation than ProPage. It can be done but it's not worth it if you value your sanity.

Show me anyone who runs one of these packages regularly from floppy and I'll show you a 40 a day man with no hair. It stunts your growth.

A hard disk will not only save a lot of wrist action but will also enable you to make full use of Pro Page's disk cacheing and Pagestream's font management system.

can't help thinking their design owes more to someone studying Mac software rather than Amiga products. I continually got mixed up between the "Device" and "Drive" gadgets.

An example of the wealth of features offered the Pagestream user is found in the styles menu. Twelve different styles can be selected for use on the text, either individually or in combinations.

Another area handled extremely well is importing text and graphics. The Amiga is really the only professional machine in the world that has a universal file format that people actually use.

Pagestream handles different file formats using driver modules. There is one module for each type of file supported and ones that you do not need can be removed from the directory to save memory.

Usually the import modules will recognise the type of file you are trying to import automatically, reducing the entire operation to a few mouse clicks.

I noticed some difficulty while trying to import structured drawings from ProDraw. Simple groups of lines seemed to transfer all right, but anything tricky with multi-layer shading went a bit odd.

Pagestream allows for the editing of individual elements of structured art, which can be handy for a bit of touching up.

With all the import modules and the editing facilities for structured clips it seems as though Pagestream is trying to do away with the need for a preprocessing art packages such as Pixmate or The Art Department. I can't really see it happening, but the ability to load in TIFFs directly is a bonus.

I think a typical aspect of Pagestream to sum up on is the measurement system. You may choose between nine different types of unit for all measurements, rulers and grids.

This might sound great, but some of the systems like didot points have been more or less extinct since Caxton. Think about it.

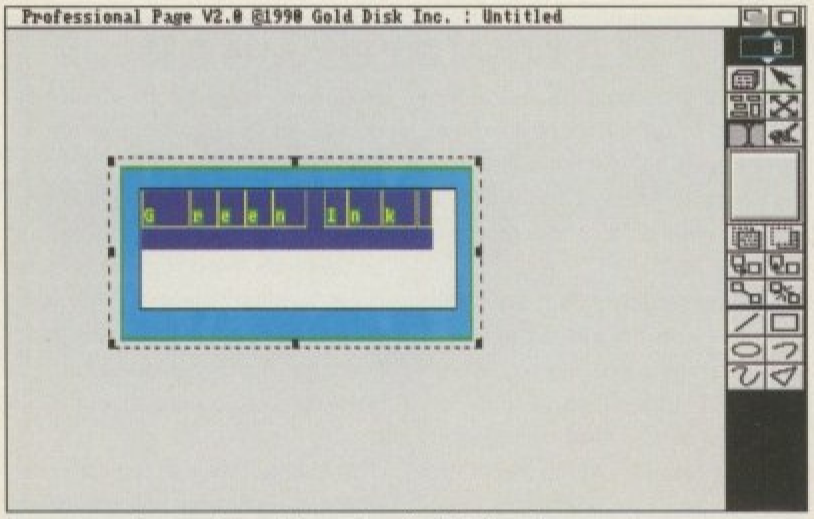
Professional Page 2.0

There is no doubt that for a long time Professional Page has been considered the only serious DTP package on the market, but while other software houses have been continually updating their software have Gold Disk been resting on their laurels a bit?

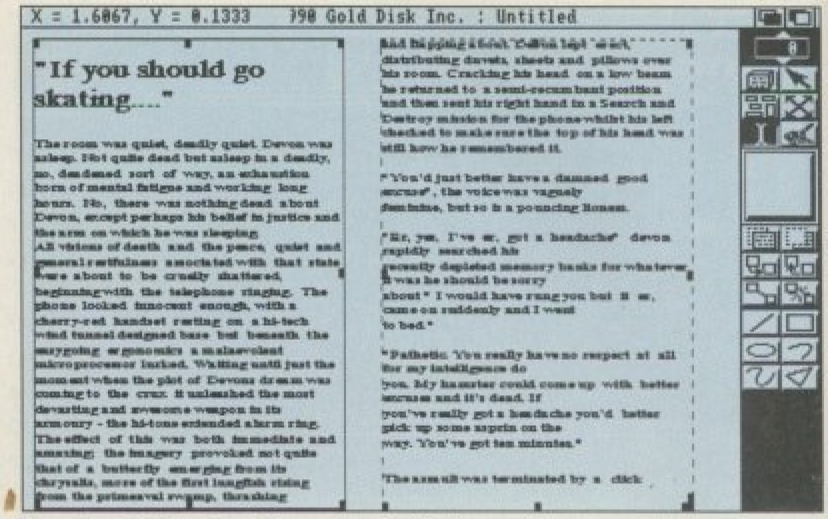
The release of Version 2.0 was supposed to be a major update, so what exactly has changed?

There are four major additions. The one which will make the most impact on the resulting layout, rather than in the way the pages are laid out, is the ability to rotate any box.

Rotating a graphics box doesn't make all that much difference – if you wanted the graphics at a particular angle this could have been



On screen colour can be useful occasionally. Note the reference characters for the CG font which is not enabled



Two column text autorouted on a standard ProPage setup

achieved in most common art packages.

But text at an angle is a great boon, enabling the designer to break out of the sterile arithmetically angular designs of horizontals and verticals. The most important difference this makes is the shape of the boxes on the page, permitting angular runarounds.

Also of great importance is the ability to handle 24-bit graphics. This is not so much an extra as an absolute necessity. While packages such as Digiview 4.0, Sculpt 4D, Real 3D and various scanners are churning out 24-bit images, the publishing world is going to be a bit upset if it can't use them.

Scanned images are particularly important since this could easily be the major source of artwork for an Amiga based publication.

Style-tagging is really a necessity. This is the ability to define and redefine the various text attributes of particular items of text.

Subheads, for instance, can be defined once in a particular style and size. Thereafter instead of tracking down each subhead and changing it to a particular style such changes can be made globally.

A similar system is set up for paragraphs – very handy when their styles are mixed in the text.

The final big addition is the inclusion of the Pantone Matching System, the sort of feature that people in the snobbish end of the publishing industry demand even if they don't use it that much.

Apart from the PMS, all these features are also in Pagestream, so it's not so much a question of great leaps forward as just keeping up with the times.

A version of the TransWrite package, which appears in the Gold Disk Office bundle, has been altered and included. It can be run on its own or more usefully called up from within ProPage to edit sections of text.

It is very handy for editing sections of text quickly – screen refreshes take an age when using Compugraphic fonts and even with the amazing interruptable refresh option it's nice to be able to see what you are typing.

One of the best features of ProPage, the font cache, has had a bit of a spring clean. As before, a requestor allows you to define the size of caches in chip and fast RAM and on any available disk.

Even on a 1Mb machine, where memory is scarce, a cache of

Colour really counts

While text, line drawings, structured art and even scanned or digitised photographs can be fairly well reproduced in shades of grey, one of the most important areas of publishing is colour.

There are really two types – spot and separable colours. The first is a single specific colour used only as a solid block, usually to highlight a particular region.

Spot colours are quite uncomplicated. When printed two plates are used, one for the black and one for the spot colour and the paper is inked twice. Produced in this way it is known as a mechanical colour.

Separable colours are slightly more tricky but they're worth it. What happens in this case is that whatever colour you define is broken down into the ink primaries – cyan, yellow and magenta. The paper is then inked three or four times, one for each plate.

Why four? Inks aren't perfect. A full 100 per cent mixture of the primaries wouldn't give a good black but rather a sort of dark mess.

It is also rather difficult to get this dark mess to match any other dark mess you may have produced on the page. For this reason an extra black plate is often used.

The advantage of separable colours is that you can have as many shades as you like and still only need a couple of plates. Colour photographs or scans are only possible to reproduce in colour by this method.

Both Pagestream and ProPage can handle colour exceptionally well. Colours can be defined either as RGB values or CMYK, for ease of translation with the more traditional sections of the publishing community.

Pagestream also offers another few sets of variants but most of them are obsolete.

A further method of defining colours is using the Pantone Matching System, which was devised to facilitate maximum accuracy during colour reproduction.

If it is really important that you must have exactly the right shade of mauvy-russet for something then this is the way to do it.

The idea is that the ink you specify will appear exactly the same no matter which printers you use.

ProPage is fully licensed to use PMS whereas Pagestream sort of simulates it unofficially.

All this is very well, but you obviously don't get to see all of these wonderful colours on-screen. How do the programs cope? Well, when it comes to imported bitmaps they don't. Neither program even attempts to show a colour representation, just black and white, although ProPage does sometimes have a go at the greys using a grey colour rather than just a stipple.

Other colours are different. For text and graphic objects both programs try to simulate some sort of representation when running in the right mode.

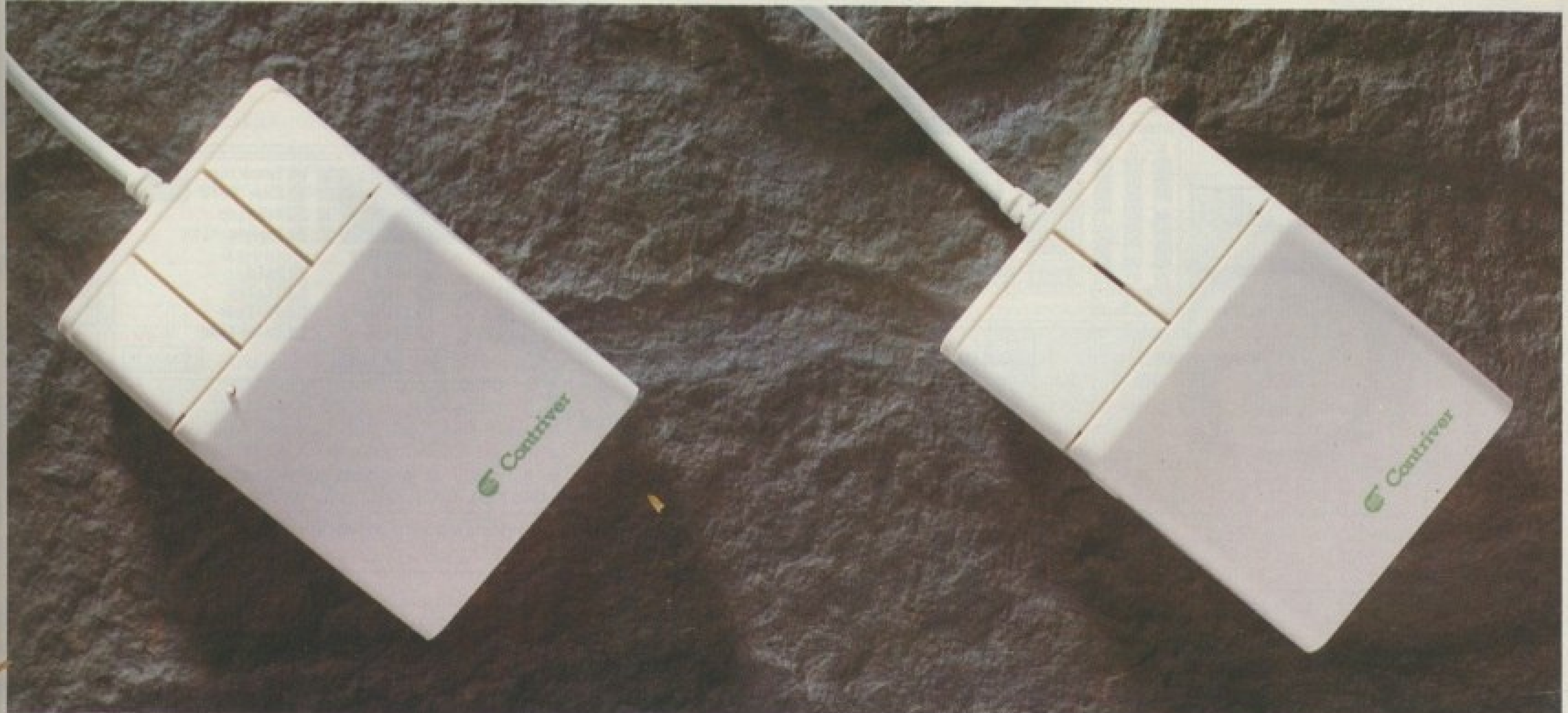
Pagestream does this by just assigning a particular screen colour to a whole range of shades. Users can alter this choice if they wish and can even redefine the palette to make it easier, but a large area of subtle tones is going to disappear. It's like trying to do the Mona Lisa as a paint by numbers with only four pots of paint.

ProPage attempts to get around this lack of screen colour by shading the colours themselves. This is quite effective and though large areas of tones will be lost it gives some indication of what is going on.

You can even choose from three diferrent dither modes for the best results. It is a bit slower though.

Both packages now support 24-bit IFF images like those produced by some scanners, digitisers and ray-tracing software.

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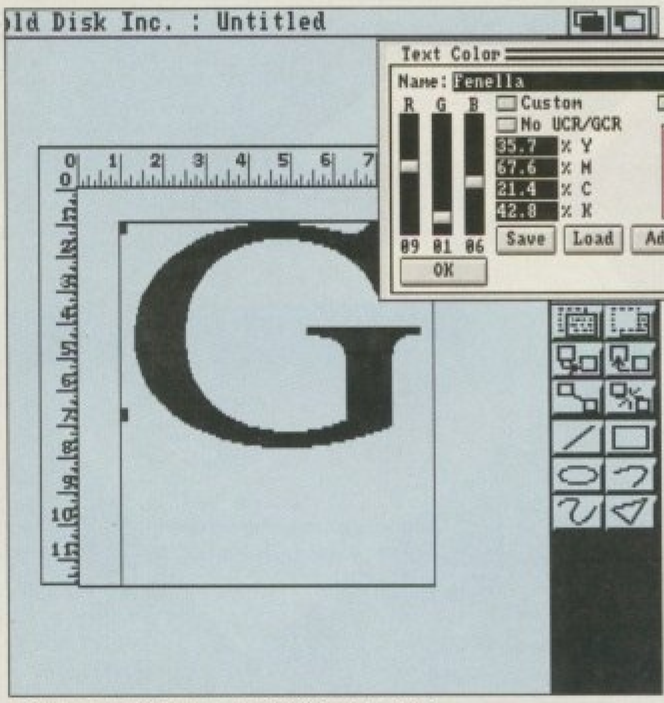
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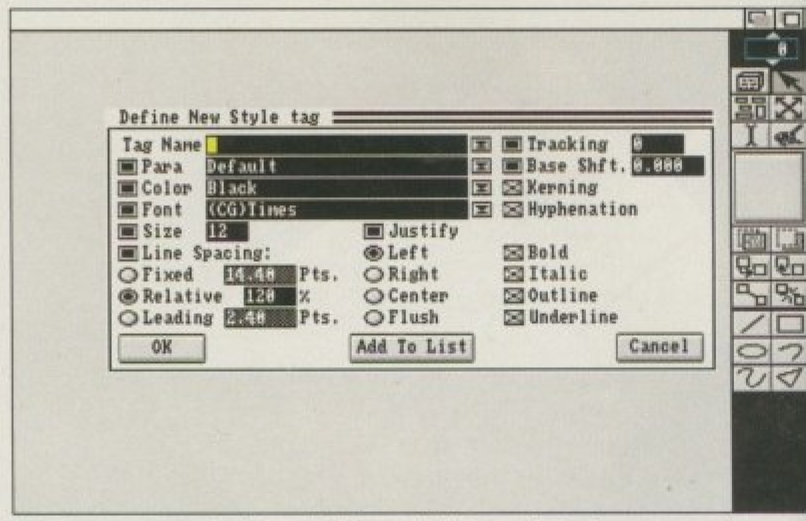
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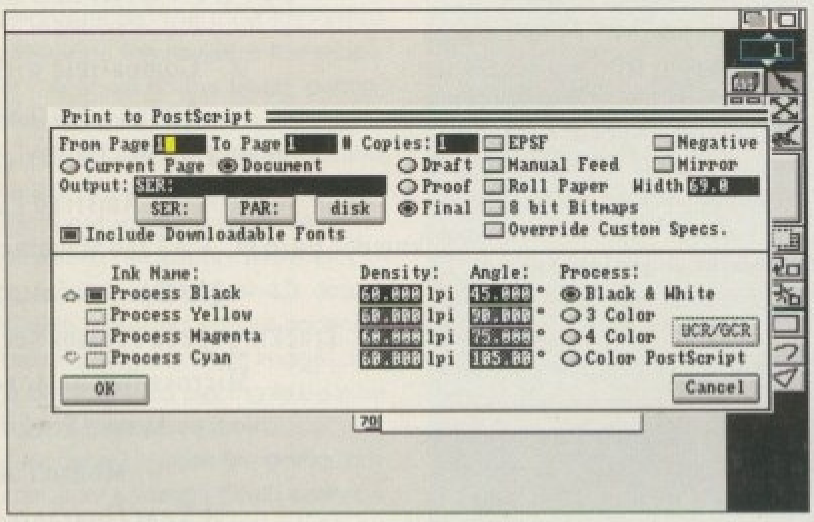


ProPage's restyled colour requestor allows convenient RGB, CMYK and Pantone definition

Font sizes on ProPage have been increased to allow monster characters like this A4 sized "G"



Style tagging conveniently handled from a stylish menu in Pro Page



All types of Postscript output specs are available in ProPage

Features	Pagestream	ProPage
Multiple documents	●	
Page templates	●	●
Document quick load		●
Multiple screen modes	●	●
Mode changing		●
Definable screen colours	●	
Screen colour dithering		●
Pantone matching system		●
Mechanical colours	●	●
Three colour separations		●
Four colour separations	●	●
Undercolour removal		●
Import 24-bit IFFs	●	●
Import non-Amiga graphics	●	
Freehand graphic tools	●	●
Box rotation	●	
Zoom view	●	
Facing page view	●	●
Work on facing pages	●	
Compugraphic fonts	●	●
Font management	●	
Font caches		●
Cache editing		●
Style tagging	●	●
Auto hyphenation	●	●
Auto kerning	●	●
Kerning editor	●	

around 10K can dramatically speed font access.

You now have the option whether to turn the cache task on or off. When not operating, all CG font characters are displayed as small squares proportional to their actual size.

At larger point sizes a standard font character is included in the box, so at least you can still read the words.

The viewing modes of 33, 50, 100 and 200 per cent, have been extended to include the ability to view multiple pages. This is almost essential when working on a double page spread, but unfortunately you can only view the pages in this mode and not actually work on them. It's not too much of a disadvantage, as it is quite difficult to work accurately at that scale.

Since many new features have been added a few of the hot-keys have been changed around. The quick reference card now unfolds like a solar panel from some satellite. It may take many months to know them all but it's probably worth it.

This is the area where ProPage shines over its competitors – its ease of use. Much of publishing is not about being able to produce wonderful complicated spreads but producing pages accurately, competently, easily and quickly.

A really great example of ProPage's performance in this field is adjusting the leading.

Instead of using a pull down menu, the leading and tracking of a block of text can be altered simply by highlighting the text and using the cursor keys.

This not only saves the time of going to the menu once, but of perhaps going to it two or three times – it's a bit difficult to guess the correct value but if you can see it then you know that it's right.

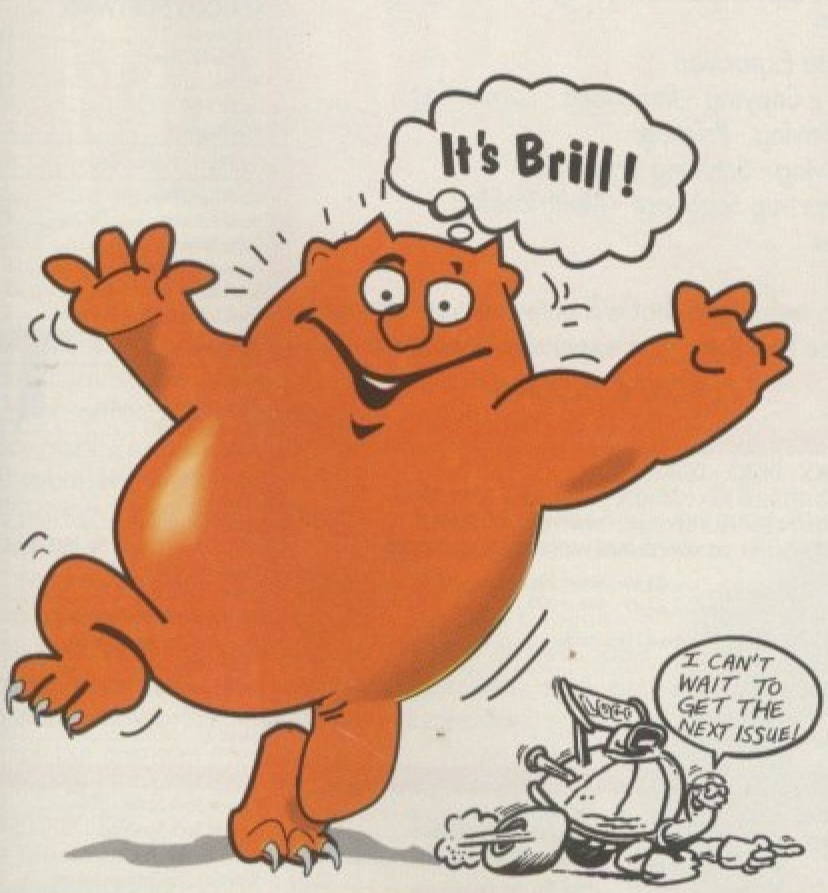
There have been a few aesthetic changes. All the gadgets have been redefined – they are smaller to get them all on the requestor – and now include a sort of shadow effect which is OK in mono and jolly nice in full colour. The side menu has shuffled around a bit, too. Although it is important to have the flexibility of large numbers of options it is also important to be able to use them effectively.

What ProPage may be able to learn from others featurewise it can certainly pay back for in terms of ease of use. It is a question not of features alone, but of sensible features.

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Paul Austin demonstrates the ins and arts of our latest coverdisk giveaway – SpectraColor

Moving pictures

The Amiga is probably the most popular machine among the computing community's artists, primarily due to its amazing format flexibility from lo-res right through to HAM and beyond.

Now its commanding position has been given a major boost with the release of the SpectraColor package by Aegis. The new program not only produces HAM pictures, but animates them as well – something no other paint package can manage.

Previously the choice was between Dpaint and its ability to animate, and the HAM packages, Photon Paint and Digi-Paint, which could not.

The same key frame animation process employed in Dpaint is used by SpectraColor, and with it a simple animation can be put together in a few minutes.

Define a brush by either cutting out a section of the canvas or loading a brush image from disk.

Click on the animation icon of the control bar, select a start and finish position and SpectraColor will do all the hard work by calculating the position of each frame in between the two. Once the calculations are over the resultant sequence can be looped, ping-ponged, speeded up or slowed, frozen on the last frame, or made to vanish. The finished animation can even be toggled between a linear or free-hand animation path on play back.

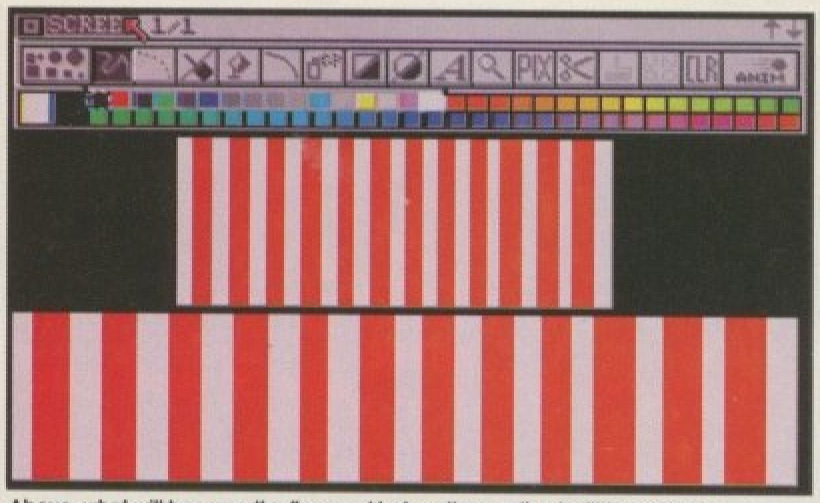
When animating an object or brush one of the most important elements in the creating the illusion of movement has to be the brush or object itself.

SpectraColor has an impressive complement of brush tools which can be combined to create very impressive effects which wouldn't be out of place in a ray tracing package.

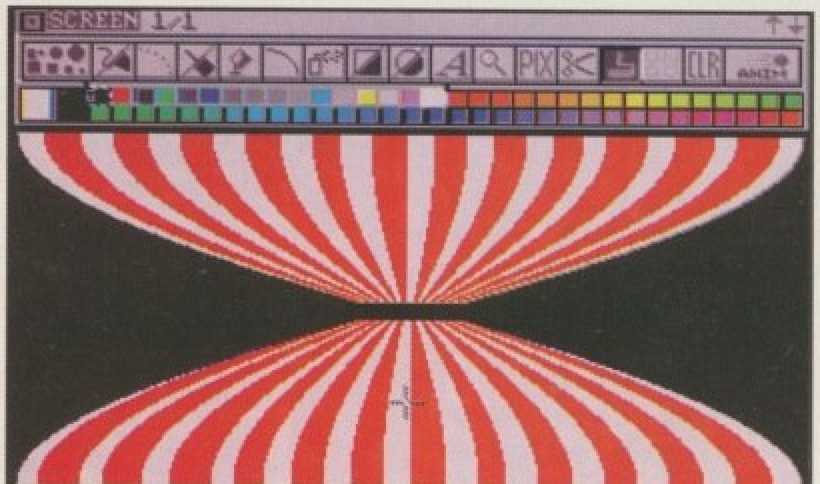
The increased palette control allows for transparency, high reflections, fog, dithering and lighting effects which can combine to produce some amazing effects. A brief glance at screen shots will make SpectraColor seem very familiar to Photon fans, and indeed in many respects it is.

Most of the options and pull





Above, what will become the floor and below, the results of a little stretching



After a little twisting of our new improved bendy brush, we're left with instant floor space

downs are identical to the Photon layout.

Closer inspection will reveal a few new wrinkles, not least of which has to be the new tape recorder-style animation icons.

The controls are very similar to Dpaint's – and in fact those of most paint packages. After you've read the tutorial you should be flying around the menus like an old master.

Artistic assistance

It's time to load up the coverdisk and create your first HAM animation, thanks to our fully functional demo of SpectraColor.

The only restriction in the demo version is the crippled save option. Unfortunately, your creations will only live as long as the power to your Amiga remains switched on.

Other than this minor inconvenience the program functions perfectly, providing a rare opportunity to try before you buy.

The first thing to do is create or load a brush. Hero of this animation is a ghoul, which we'll send gliding across a patterned floor.

Fortunately for the lazy ones among us the load functions work perfectly, so if you want a really quick demo you can load all the elements of the animation from the coverdisk.

However, it's much better if you follow the tutorial and create your own little flick from scratch. The various skills employed will help to illustrate the abilities of the software as well as improve your brush work.

Right, the first job is to load an existing brush from the coverdisk. This will be the floor of the room, and it must be loaded through the brush menu. Select the menu and its load option to produce the file requestor.

Click on the drawer gadget and select the art directory. Now select Stripes.Brush and click on load.

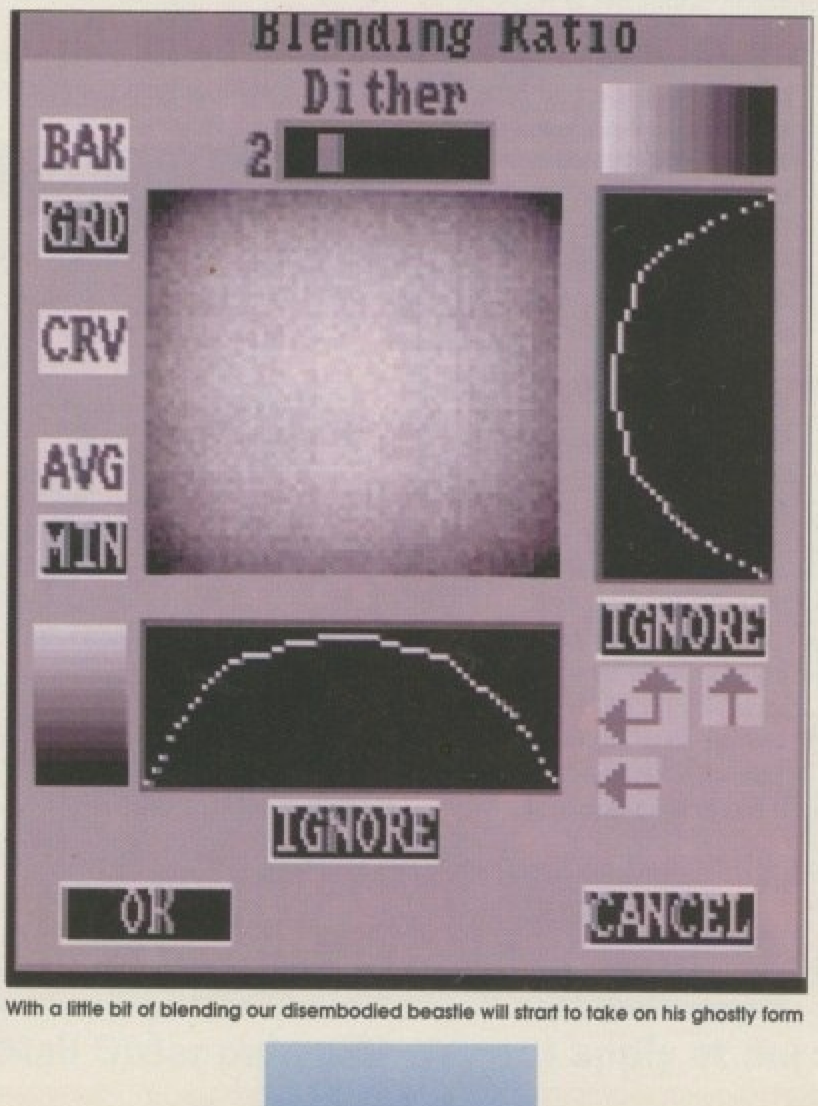
After a couple of seconds your pointer should appear with a red and white striped brush attached. This will become the floor of the room which will appear to stretch out into the distance.

Go back into the brush menu and select Double Horiz, which will do exactly what it suggests. Next pull down the brush menu again and select special. When a sub menu appears select the TWST option.

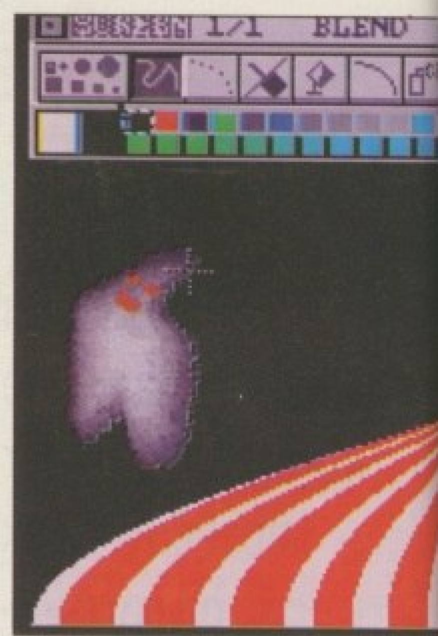
Now move the brush to the right hand side of the screen and click on the left mouse button. The outline of the brush will appear, and as you move the pointer towards the centre of the screen the outline should start to distort.

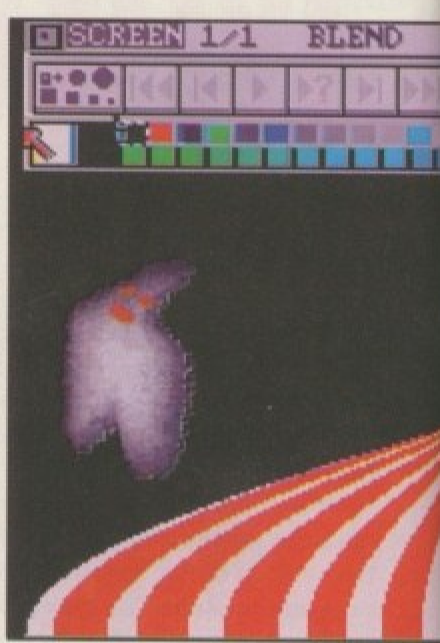
Once you have the shape of a trapzoid – or upside-down floor section if you prefer – release the button and you'll be well on the way to your first masterpiece.

Next comes the simple matter of flipping the brush to create the floor for our apparition to float over.

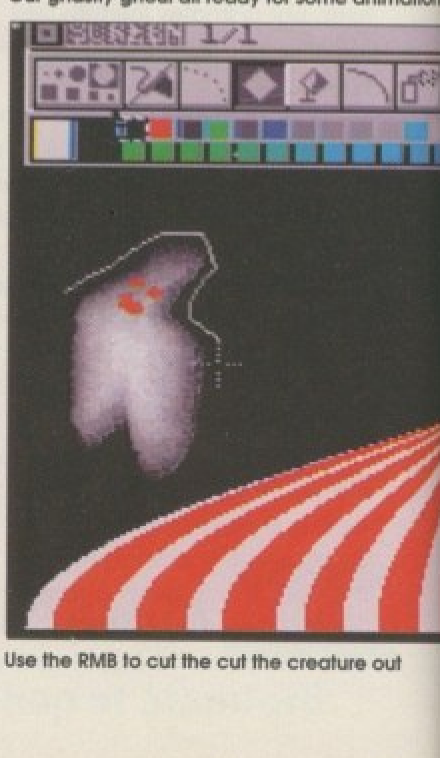


With a little bit of blending our disembodied beastie will strart to take on his ghostly form

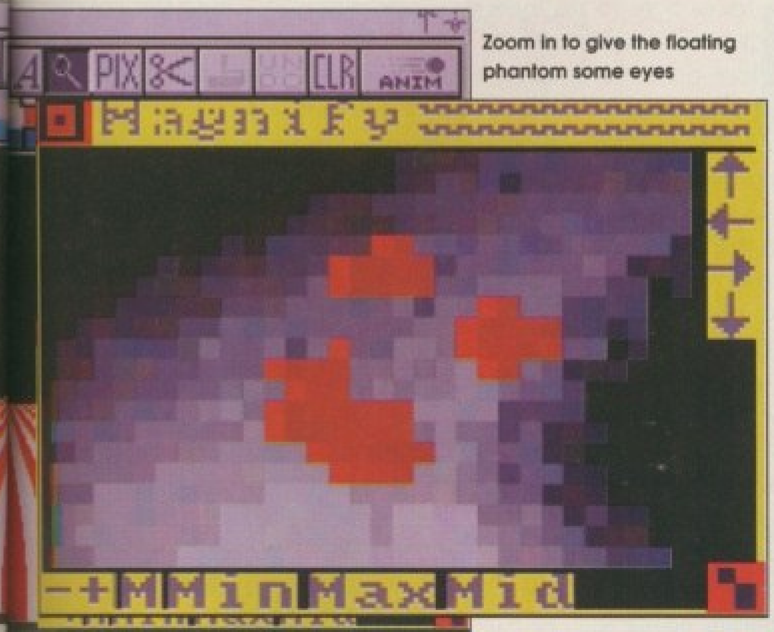




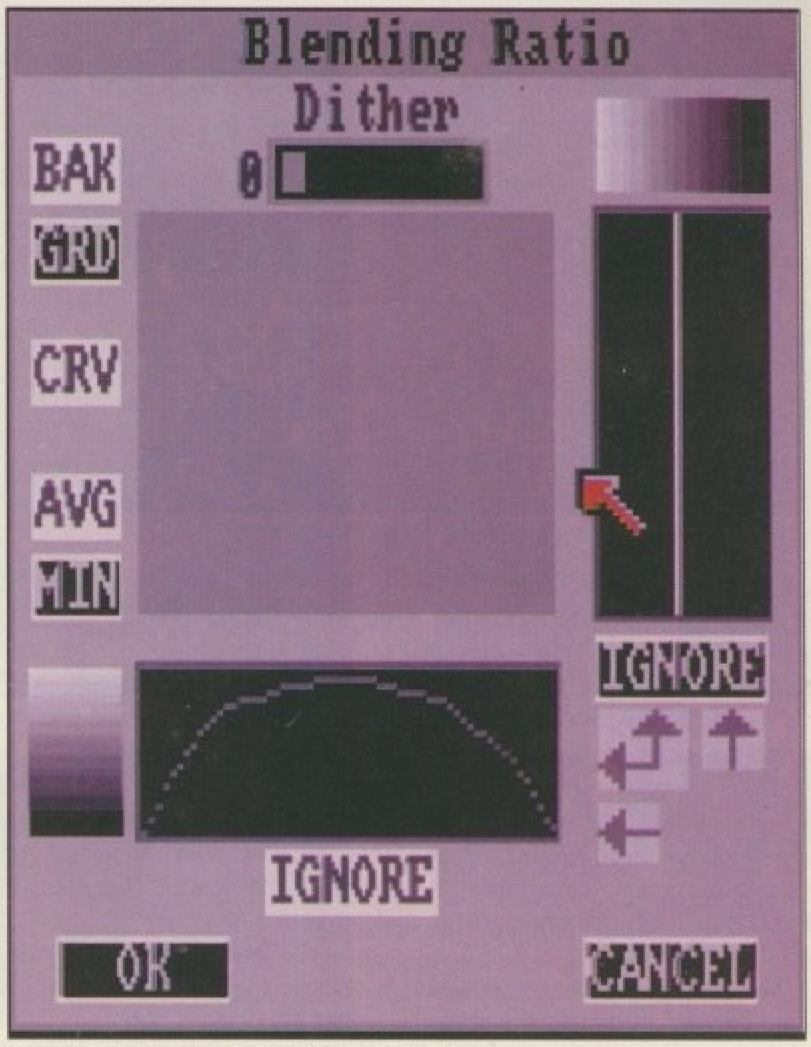
Our ghastly ghoul all ready for some animation



Use the RMB to cut the cut the creature out



Zoom in to give the floating phantom some eyes

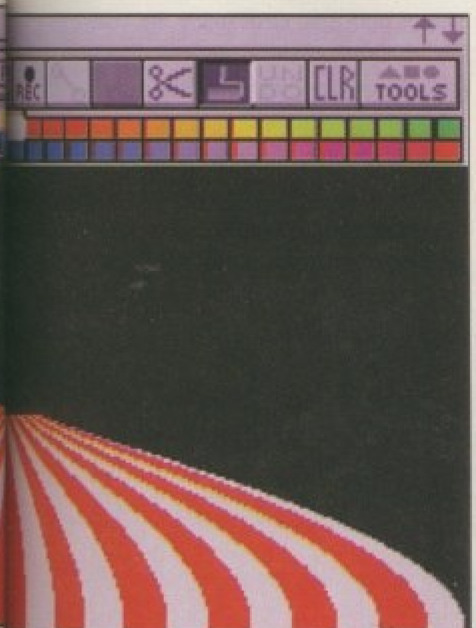


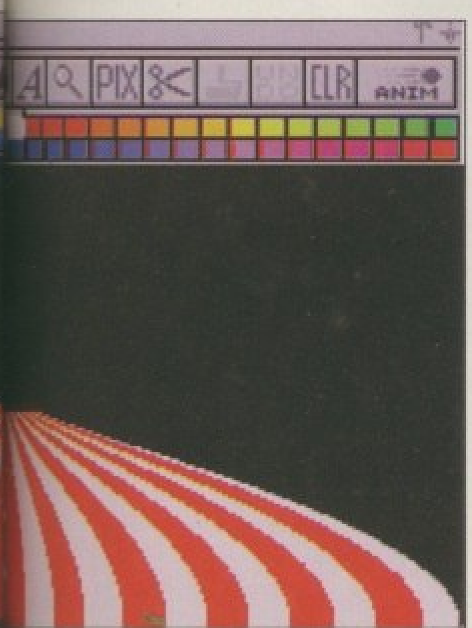
Add the finishing touch to the see-through scene

Once again go back to the brush menu and select Flip and Vert from the submenu. Hey presto, instant floor!

Now move the floor section into position and hit the left mouse button to paste it in place. It's also possible to render a brush in true perspective, but for our quick tutorial this little trick should be quite acceptable.

When you're happy with the floor you can clear the used brush by pressing (Alt) and (Del) simultaneously.





Ghostly goings on

The floor complete, all that remains is the flying phantom. If you're really lazy you could load the ghoul from the disk, but I know you wouldn't consider such a cheap trick. So we will build the beastie from scratch.

To create a convincing ghoul we'll have to do a little bit of blending to give our spectre his shadowy appearance. When the program loads the default screen colours should be white on black.

If you've altered this while experimenting, change it back to the original before continuing.

The next step is to pull down the foreground menu, shown as FGMode on the icon bar. Select Blend-set to bring up the blend control window.

Using the left mouse button draw a freehand curve in the horizontal blend gadget, but make sure the curve doesn't quite reach the top.

Click the up-arrow on the right to copy the the curve into the vertical blend pattern gadget, and move the dither bar at the top of the screen to two.

Hit the gadget marked AVG to average out the differences in the blend, and once more on OK.

The blend pattern has now been defined, so any images produced will all have the same textured appearance. To create the ghoul use the freehand polygon tool from the icon bar. This is your chance to demonstrate real artistic flare.

Draw your ghost on the left hand side of the screen using the left mouse button so that it will be drawn with the foreground colour and the new blend you've just created.

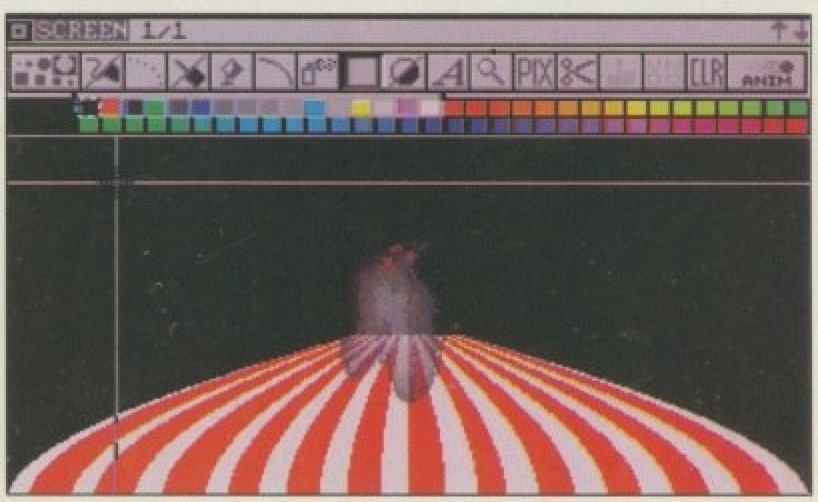
Once you've drawn the little monster press the spacebar to fill him in with the blend colour. All he needs now is a few facial features.

To make sure his eyes are in the right spot, select the dotted line drawing tool from the icon bar. Click once on the magnify tool and again over the head of the ghostie.

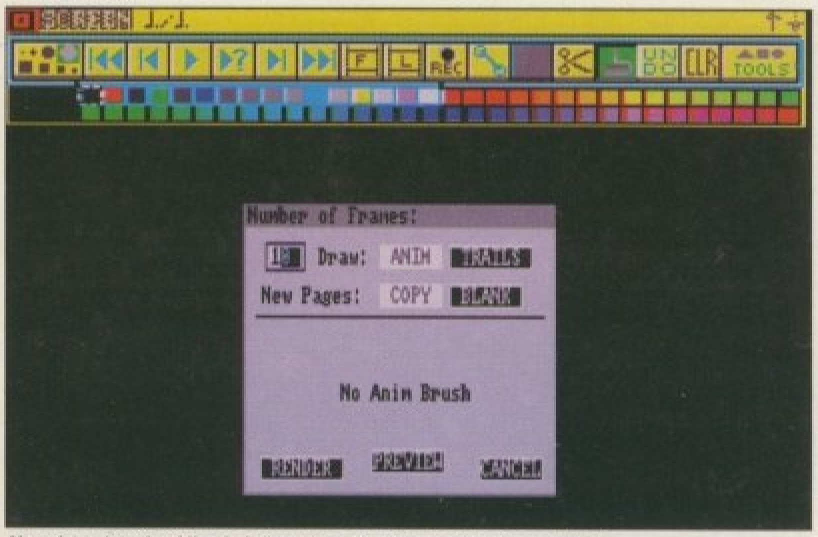
A zoom window will appear on the canvas. Now use the right button to add a few pixels in the background colour, which will appear as our ghoul's eyes. Close the magnify window and there he is in all his splendour.

Moving pictures

Now the bit you've been waiting for. It's time to breathe life into our dead friend. First he has to be turned into a brush, and to do this



Our transparent spirit as he'll appear in the animation



Now for a touch of the Spielberg's and your creation is complete

needs to be extracted from the canvas using the cut tool. Go back into the brush menu and select trans.

The next step is to draw a square using the right mouse button to enclose the ghost. When it's completely surrounded release the mouse button and it will be cut free from the canvas and should be floating around attached to the cross-hair pointer.

Because the right button was used rather than the left, the background colour replaced the ghost on the canvas. If the right button had been used the original image of the ghost would have remained in place on screen.

The final task before we animate is to add more realism. Ghosts inhabit the etherial plain so tend to be on the translucent side, so we must add this feature.

It's off to the pull downs for the last time. Open the FGMode menu and select Blend-set. The familiar window will appear, at which point click in the middle of the Vertical blend dial. This should create a straight line.

Next click on the Ignore gadget for the horizontal blend, then on the AVG box and move the dither back to zero. Hit return and your new parameters will be set.

That's about it for us humans as the Amiga takes over to do the hard part. Click on the animation tool on the icon bar to bring up a tape deck style icon bar.



Press the button marked with an F and move the pointer to the lower left of the screen. Directly underneath the ghost brush should be the letter F.

When you're happy with the starting point of the animation press the left mouse button, at which point the F(first frame) should turn to a L(last frame).

Now move the ghost to the right of the screen and hit the button again. Once that's done, click on the record button to reveal the record requestor.

The beginning and end frames are now defined leaving the 'tween frames for SpectraColor to render. The requestor contains all the information relative to the animation. You may wish to experiment later but for now just select render.

SpectraColor will proceed to create all the 'tween frames for the sequence giving a percentage as the process is executed. When it's over, hit the play icon and revel in you artistic genius. To stop the animation click on the left mouse button. It may take a few attempts but it will stop eventually.

To alter the sequence click on the play icon with the question mark attached. This will bring up the record requestor again. Alter the delay to seven then highlight the ping pong gadget and tap on OK.

Click on play and gasp in amazement at Ghost II, the sequel – well perhaps not, but it does open up interesting possibilities.

It is possible to do much more by adding extra features to the individual frames of the sequence by advancing the frames one page at a time, working on each in turn by using the frame advance icon on the icon bar.

That about sums it up for our brief, but hopefully useful, tutorial investigating the talents of SpectraColor.

A lot of features have not been explored, but most of the other options are easy to use and probably familiar to most people who have used a paint package.

I'll leave you to draw your own conclusions on the package's value for money. Personally I think the other programs are in for some stiff competition.



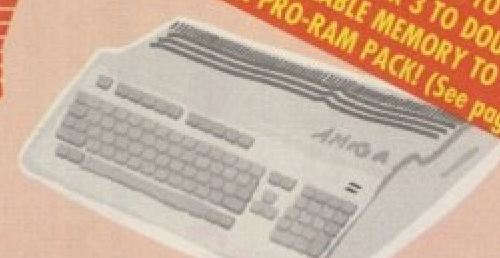
Once a mega-star but now just a shadow of her former self slowly fading into obscurity

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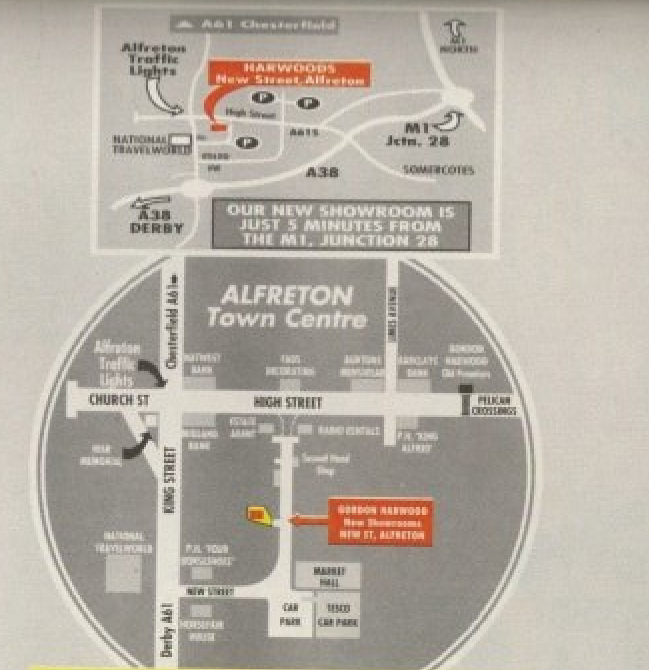
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PUBLIC DOMAIN

Paul Austin surveys his domain and brings PD to paper to recount his adventures

Before I delve into this month's domain, I think a small apology is in order. Not for any errors, but rather for the domination of this section of *Amiga Computing* by Amiganuts United. This is not my fault, and certainly not that of the Amiganuts themselves.

The fault falls firmly at the feet of the competition, or to be precise, the lack of it, offered by the PD libraries in this month's disk submissions – hint, hint.

And so to work. Do you ever get the urge to write the definitive novel, or perhaps a beginner's guide to potted plants? If so, you'll be in the market for a word processor.

The trouble is, it's amazing how fast you lose the urge to put pen to paper, or even finger to processor, when you're faced with buying a commercial product, that can easily run into triple figures.

A cheap alternative is desperately needed and as usual the Public Domain comes to your rescue.

The PD market isn't short of alternatives in the word processing department, but this month the spotlight falls on the excellent Text Plus V2.2E, which from now on will be referred to as TP.

Previous versions had a few rough edges, which fortunately seem to have been smoothed down considerably in the latest one. It now boasts user friendly features very reminiscent of some of the commercial competition.

Program control revolves mostly around the rodent, with the familiar pull-downs giving access to program functions. All the essentials are there, and anyone acquainted with the world of word processing will feel quite at home. The old pros will appreciate the keyboard shortcuts.

One function not to be found on most of the opposition is the ability to iconify. This will close down the program window and open a small icon on the menu bar – ideal for the memory hungry multitasker. It gives instant access to the rest of your Workbench environment, as well as freeing 42K of valuable memory.

Getting back to your text is simple. Click on the icon and TP leaps back into action just as you left it.

You can save in either ASCII or letter format, both of which can be appended, loaded, saved or deleted from the menu bar.

All the load and save functions are now accessed through the new improved file requestor, that spits out your prose at a blistering rate of knots which is equal, and in some cases faster, than many a commercial competitor.

The biggest surprise has to be the impressive range of features hidden in the pull-downs. There's block editing, find and replace, backup, save, goto, justification and centring.

Page and style controls, margins and page lengths are there, plus the usual options for normal, underlined, bold and italic text.

After a brief look at the print options I came to the conclusion that this is almost certainly a commercial project that inadvertently wandered into the PD after a heavy night on the Tipex. To complement TP, Amiganuts have also added Aspell, a very fast and effective spell checking utility. The pair make a powerful processing team, strong enough to take on the best in the business.

Anyone who wants to move into the world of word crunching, would be well advised to try out TP out, before paying for a commercial alternative.

Disk number is Amiganuts United 832.

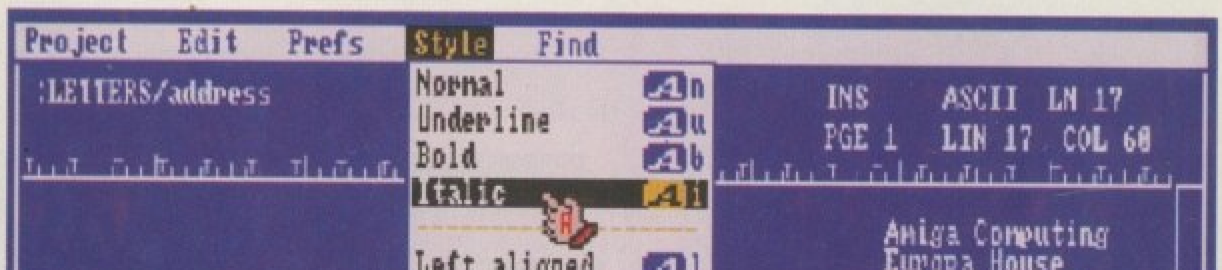
Words work

If you are suffering from a bit of writer's block, a little light relief may be in order, perhaps a crack at a crossword or an attempt at an anagram. If so Amiganuts have the solution to a word fiend's dreams.

Disk 899 contains all the answers to the endless supply of word puzzles supplied by the popular press. A match word program will help solve a particularly tricky crossy, while the anagram program should finally give you the opportunity to beat the smug little seven-year-old on Countdown.

Then there's Makeword, which will construct the maximum number of available words from any given letter combination.

Continuing on our artistic travels, the next disk is yet another Amiganuts offering, Amos Paint, which funnily enough was written



TP – a thoroughly professional word processor

Manipulating modules

If your artistic talents lean more towards music, the MOD_ Processor could be the answer to many a muso's prayer.

Most Amigan musicians want at some point to incorporate their musical masterpieces into a demo, or perhaps a title screen, but don't have a clue how to code a play routine. The MOD_processor could well be the answer.

The software will convert the modules of almost any Soundtracker clone into an executable file which can be then run from the CLI, or as part of a script file.

As if that wasn't enough, it can also include any IFF or HAM picture into the file, which as a result will pop up as your masterpiece plays. When you've had enough a separate CLI or script file command will stop the music in its tracks.

The program is another licensed to the Amiganuts by its creator Steve Marshall. This isn't his only adventure into module processing, his first release went by the strikingly different name of MOD_professor, so make sure you get the new version – you want processor not professor.



An item to impress budding musos

To the beginner the prospect of creating executable sound modules with IFF graphic support may appear a little daunting, but thanks to the excellent front end the process is fast and painless.

It's a simple matter of a few load and saves via a standard file requestor, combined with odd pull down selection from the menu bar. The end result is an instant combination of sound and vision that can be slipped into any startup.

The term licensed PD may seem strange, but it's not as confusing as it sounds. MOD_ Processor, like many others in the Amiganuts collection, is licensed only to them.

This doesn't mean it isn't public domain – you could still give the program away free – but it does mean that Amiganuts are the only people who should be selling it.

with Amos, a programming format that seems to dominate much of their software.

Amos Paint is a fine example of the best of Amos. However, having said this, it certainly isn't the most original piece of work I've ever seen. But if mimicry is indeed the sincerest form of flattery, Dpaint and friends should be blushing like the proverbial newly wed.

The package boasts all the options found on most non-HAM paint packages. Animation, of course, isn't one of them, but there are attractions not to be found among the opposition. The patterned fill feature came as a very pleasant surprise, and for some reason is a rare addition to most paint packages.



Try your hand with a PD paint package – Amos Paint

The program works in either high or low res, and can import a wide variety of fonts from disk. In high res the program can use 16 colours, all of which can be altered to your taste with the now familiar RGB colour controls.

If you're a paint person this has to be well worth the pathetic sum you'll have to hand over. If you do become addicted please, make a contribution to the author's coffers, it could mean the difference between another release or none at all.

To an Amiga artisan, the pattern fill feature could well make the purchase worthwhile in itself. Disk 911 is highly recommended.

I think it's safe to say that at least 50 per cent of Amiga owners were once dyed in the wool 64 fanatics – absolutely certain that was the ultimate machine and that nothing would ever come between them and their true love.

Nowadays it's likely the C64 spends its twilight years gathering dust alongside a pile of long forgotten peripherals.

It's bad enough that hardware is going to waste, but more importantly what about all the hard earned cash tied up in stuff?

Disk drives for the 64 may have been slow, but they were by no means cheap. Now the resale value of ageing add-ons is not high, so there has to be an alternative, and indeed there is – Fish disk 379.

The A64Package is a 64 emulator that will give the Amiga access to all the old 64 peripherals, disk drives, printers and so on. It will also turn the Amiga into an exact replica of the 64 itself.

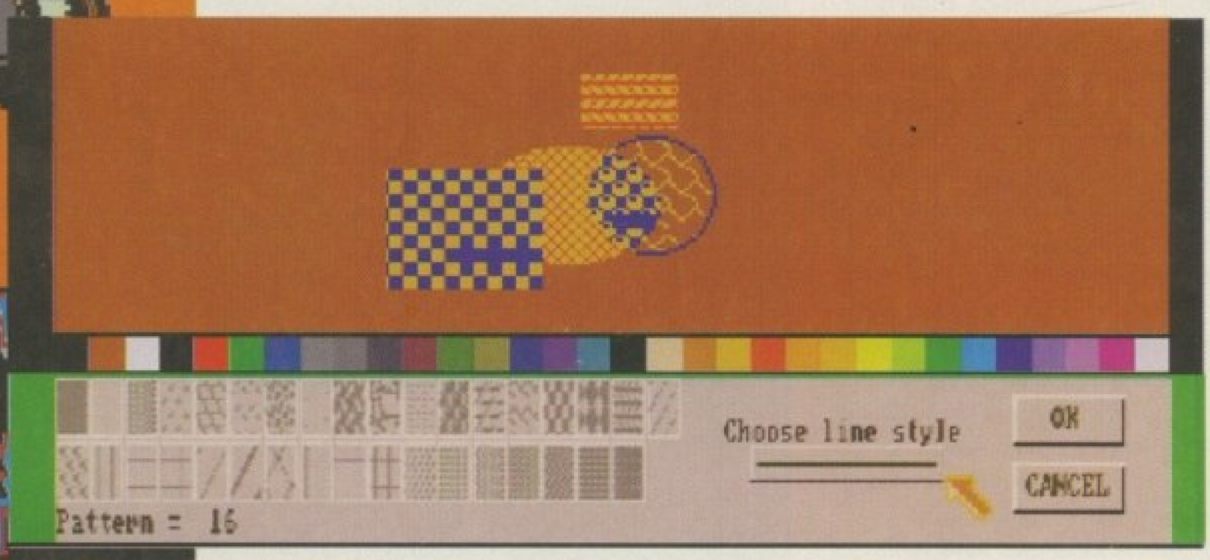
Anyone familiar with the silly DIN plug connections on the 64 will have already guessed that there is a price to pay, but as usual in the PD it's only a small matter of a subscription to the author of the software.

Once he has his cash you get your interface which slips into your latest love, allowing access to the 64's array of add-ons.

Forward to the past

I know it sounds a bit like turning a Lotus into a Lada, but there was a lot of good work done on the 64, and this gives you a wonderful opportunity to walk down memory lane.

Think of it, the chance to write



Textured colours

Games Galore

As promised in last month's column I'll conclude the rundown of Seventeen Bit's Games Galore duet. The second in the collection carries on in the same vein as the first, with a varied collection of eight simple but addictive games.

Along with the almost inevitable version of Othello there's the odd arcade thrown in for good measure. Sky Flight is the first, and definitely the simplest, being a modern version of an old Atari console classic in which two opposing pilots chase each other around the skies in a couple of acrobatic biplanes.

Welltrix is the second arcade on offer, and a much more recent release. In fact it's so new that certain commercial offerings are still hot from the presses with price tags equally as warm to the touch.

If you are a fan of its forerunner, Tetris, you'll love this one. There's also an old favourite that turns up every couple of years under a seemingly endless stream of alternative titles. Yes it's Breakout yet again, this time working under the pseudonym of Bounce.

Not a bad version but there's better about, and Amiganuts 904 would be a good place to look if you're a real addict. But be warned, that's the only thing on it.

Those in the mood for a bit of an adventure could have a go at Jackland, or if role playing is more your goblet of poison you might try Larn V12.0b.

If you don't have the patience for such things BlueMoon could be the game for single handed cardsharks.

Games Galore is an excellent collection of computer classics, well worth a look, not to mention the asking price.



Blast your way to eternity and back with Mayhem

the immortal "Hello Mum" scroll routine, just like you did in the local shops. Yes I saw you – aahhh... memories....

The 64 emulator is by no means alone on Vally PD's latest utilities disk. Along with it comes four more useful utils and an excellent Workbench toy.

It's a collection well worth a couple of quid of anyone's cash. Available from Vally PD disk 600.

Art for arts sake

As you may have noticed I'm not a big fan of passive software. If you are going to buy something it's only fair that you should be able to interact with it. In the case of Amiganuts 287 I'll make a slight exception with a HAM slide show created by Kerry Lancaster. It's based around the NASA space missions, and offers stunning shots of space exploration's formative years.

If you want to impress a friend by showing off the best of the Amiga's graphic abilities it could be worth a look. An oldie but a goodie.

Still in the couch potato mode and demand some effortless entertainment from your Amiga? Perhaps a little music might help to soothe the soul. If that is what you are after Amiganuts 901 is just the thing. The four tunes are straight out of an episode of Starsky and Hutch, and with handfuls of 70s sounds blaring out you'll soon be diggin' out your platforms.

Yes, I do know it's the 90s now, but like me many of you are no doubt thoroughly sick of the predictable techno pop on offer in most available demos. As a result it wins hands down in this month's musical PD parade.

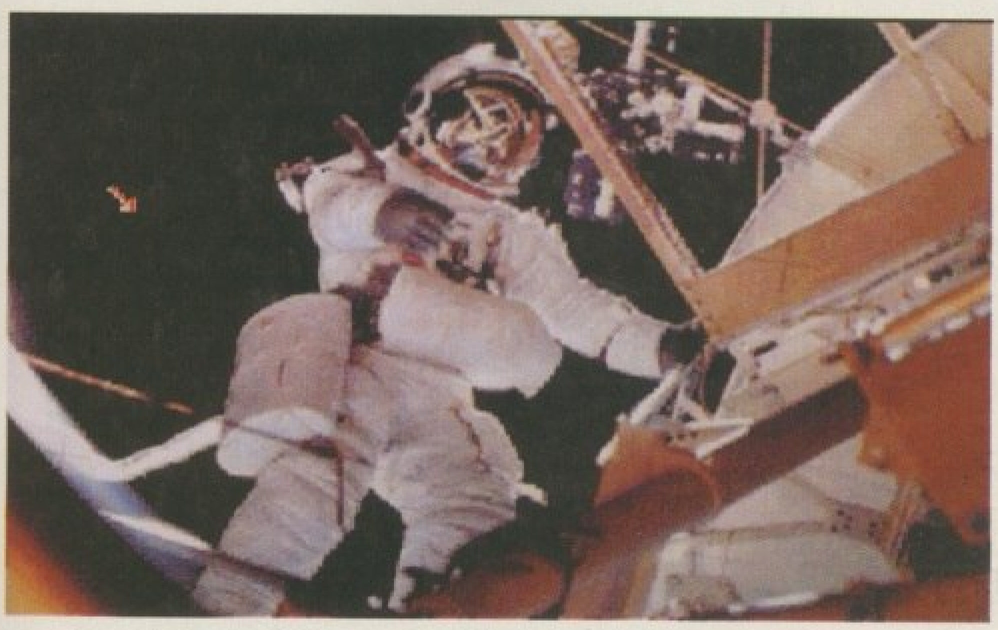
Amiga Mayhem

If you want a little more glamour in your game play, you might try another Amiganuts offering, Mayhem.

It occupies an entire disk, but as a result you do get something that could easily be mistaken for a







commercially produced game. Gameplay is extremely smooth with high quality graphics and sound FX.

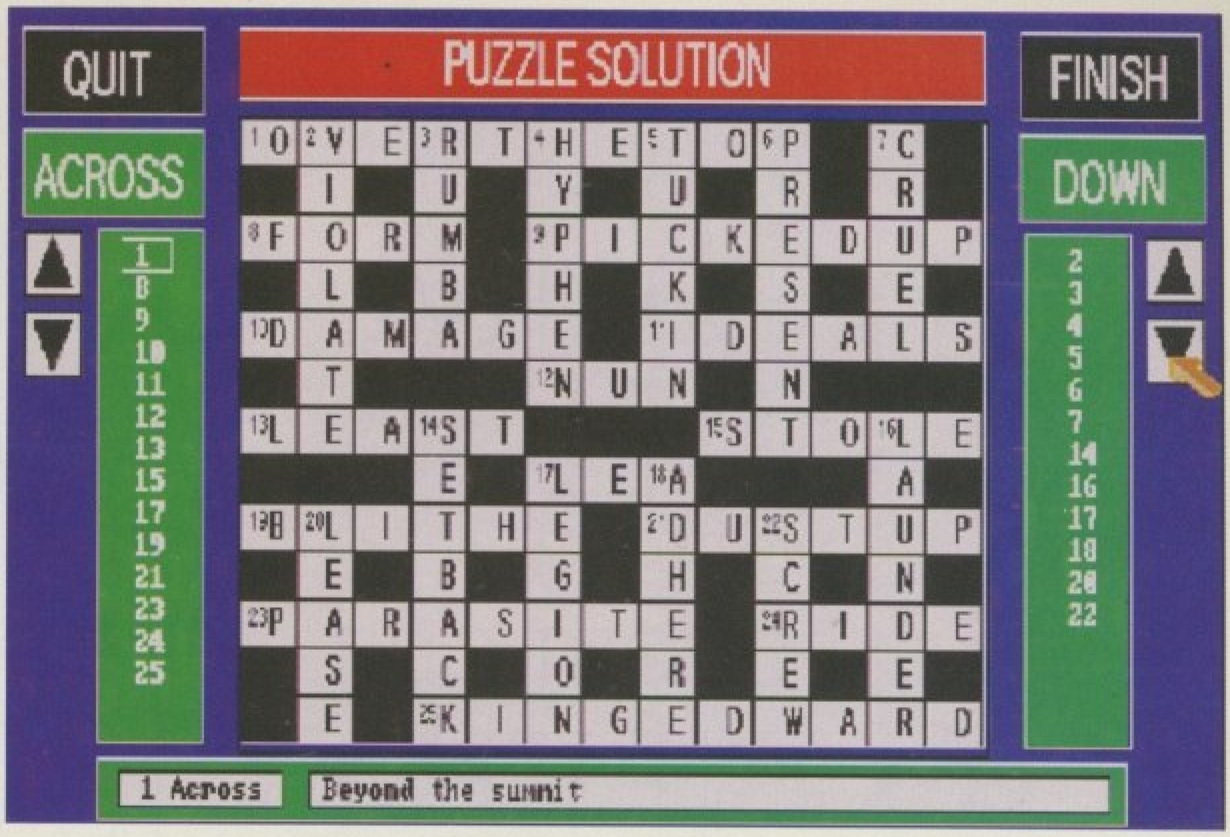
If you're into an occasional blast-'em-up, Amiganuts 868 could well be a worthwhile, not to mention cheap, alternative to the almost universal £24.99 asked for commercial offerings.

Play on words

Fancy a crossword? Amiganuts have unleashed another release from their licenceware collection.

1 Across 2 Down is a very impressive example of Amos and its now familiar ability to produce a very slick front end, as you can see from the screen shot.

The initial release comes on two separate disks, one with the program itself, and the second a data disk with eight puzzles.



More puzzles will be regularly released onto data disks to feed the addiction of the masses, and as a result even out the cashflow for Mr Amiganuts Ray Bert-Frost, and of course the authors Stuart Parker and Keith Grant.

Clues can appear slightly inadequate to the uninitiated. For example, Amiga Computing would appear simply as 14 letters, rather than 5,9. A small point but a slightly annoying one.

In general 1 Across 2 Down is excellent and as a result physical force was required to remove my greyhaired mother from the keyboard.

Amiganuts Disk 877+877-data1.

I started with a whine, and I'll end with one. Why do people climb mountains, swim seas and buy STs? I'll tell you why, they're barking mad!

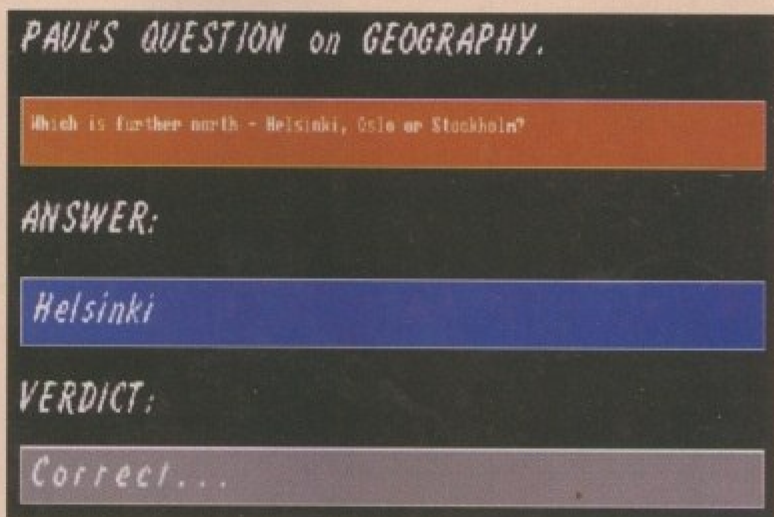
As a result you can forgive them. People who code without any regard to the operating system of the Amiga are just lazy, and consequently make life a real pain in the Agnus for the rest of us.

The Amiga is meant to multitask, so why not let it?

OK, a few super bits that don't get on too well with Workbench might have to meet their end, but believe me it would be well worth it. So please, please code with care.

Next month I hope we'll have a few worthy opponents for the Amiganuts to contend with. If there's anything you want to see in the column, or perhaps out of it, drop me a line.

Art and Lit, or entertainment



Well, did you know the answer

If your interests are more general than literal, the next offering is for you. General knowledge quiz games are by no means new, but they're still as popular as ever.

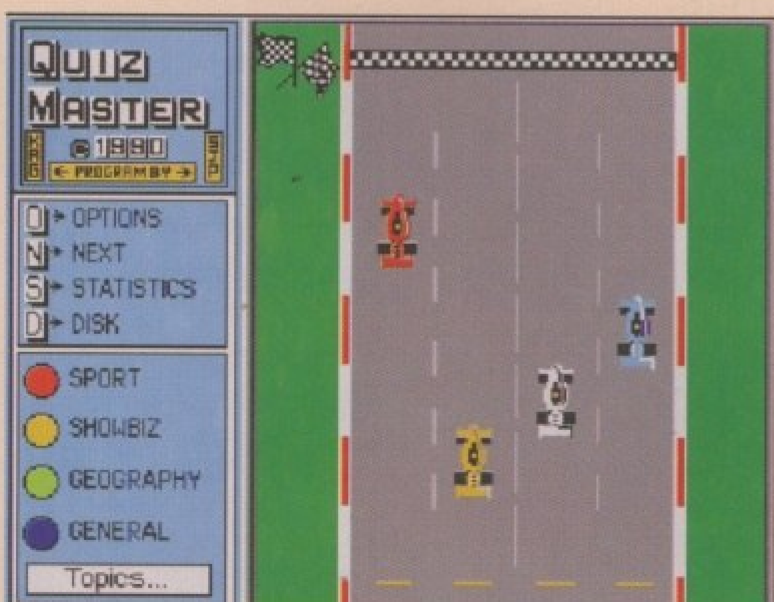
Whether it be the immortal "Can I have a P please Bob" from Blockbusters or the eternal struggle for another wedge in Trivial Pursuits, people can't get enough of the quiz game.

As a result Keith Grant and Stuart Parker turned their attentions from the crossword and came up with Quizmaster, yet another licenceware release from the Amiganuts. Yes, it's an Amos creation.

The game can support up to four players, each of whom try to take on the opposition in a do or die high speed struggle – OK so I'm exaggerating a bit.

Each player takes control of a less than sporty looking sports car in which he attempts to move up the track by correctly answering questions in one of the four randomly picked categories.

Apart from the rather silly race track element, everything works well, if perhaps slightly slowly. Having said that, it's the questions that matter, and in this department Quizmaster scores well.



And the red car creeps into the lead...

That's about it for this month. If you have any axes to grind or opinions about the world of PD, write in and I'll try to incorporate any ideas into the column. Write to:

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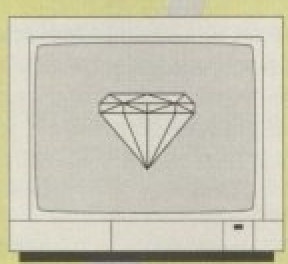
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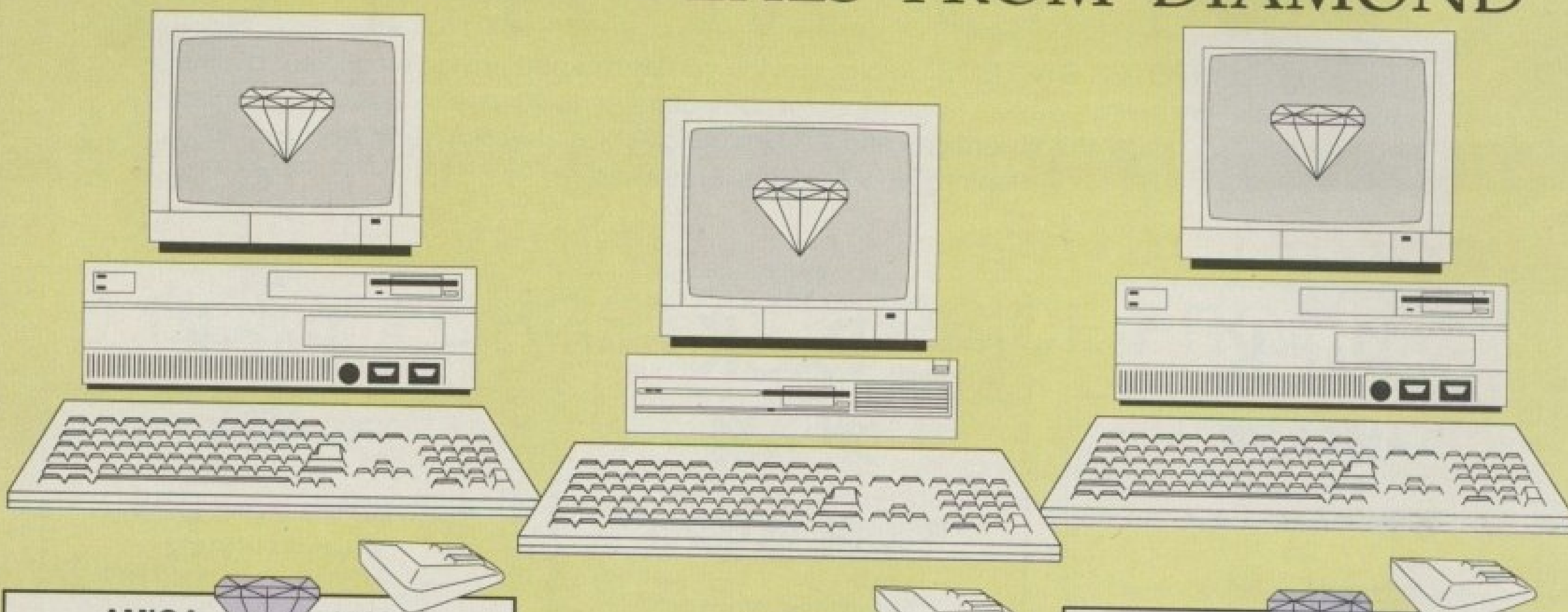
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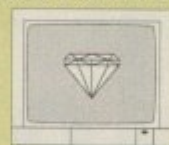
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Still waiting for the portable Amiga? Wait no longer, Nick Vietch examines an available alternative

Slim, black and a lovely mover

A good many people need to compute on the move. Doctors, lawyers, architects, engineers, even impoverished Scottish students have felt the urge to get the digits moving while in transit.

It is to be hoped it doesn't catch on even more or British Rail will start charging office rents – though they are not far off that now.

One contender for a place in your briefcase, tank bag or knapsack is the Cambridge Computers Z88, developed by latter day genius and mentor for bespectacled youth, Sir Clive Sinclair.

That the Z88 was developed by Sinclair is pretty obvious when you first behold one. Well, for a start it has the letter "Z" in it and the number eight. Secondly it is black.

Always black

The man who said of the ZX81's screen display "Any colour so long as it is black and white" obviously stepped up one from plagiarism to mimicry. All of Sinclair's computer products have been black since the second series of ZX80 RAM Packs.

Thirdly, and most importantly from the user's point of view, it has a strange keyboard. It's not touch sensitive like the early ZX models, but the principle is much the same – a rubber bath mat which can sometimes be coerced into accepting input. Usually only with the threat of direct force backed up by a Security Council resolution.

Rubber goods aside, the Z88 is a remarkable piece of equipment. For a start it is terribly light and slim enough to slip into a briefcase and still leave room for some briefs. This is certainly a major advantage over other models, and again, is partly due to the slim but slippery keyboard.

If you want a portable and the prime requisite is that it IS portable, the Z88 is the only real contender. Can you use it seriously? This article was written on various forms of public transport.

What few people consider is the software that comes with a portable.

It's all very well being slim and lightweight but if you actually bought the kit for more than the pose value then obviously the software is very important.

Aside from the extensive range of pop-up calendars, clocks and calculators there are two main packages on-board the Z88. The first is the PipeDream word processor, which is more fully-featured than much commercial software you might run on the likes of the PC.

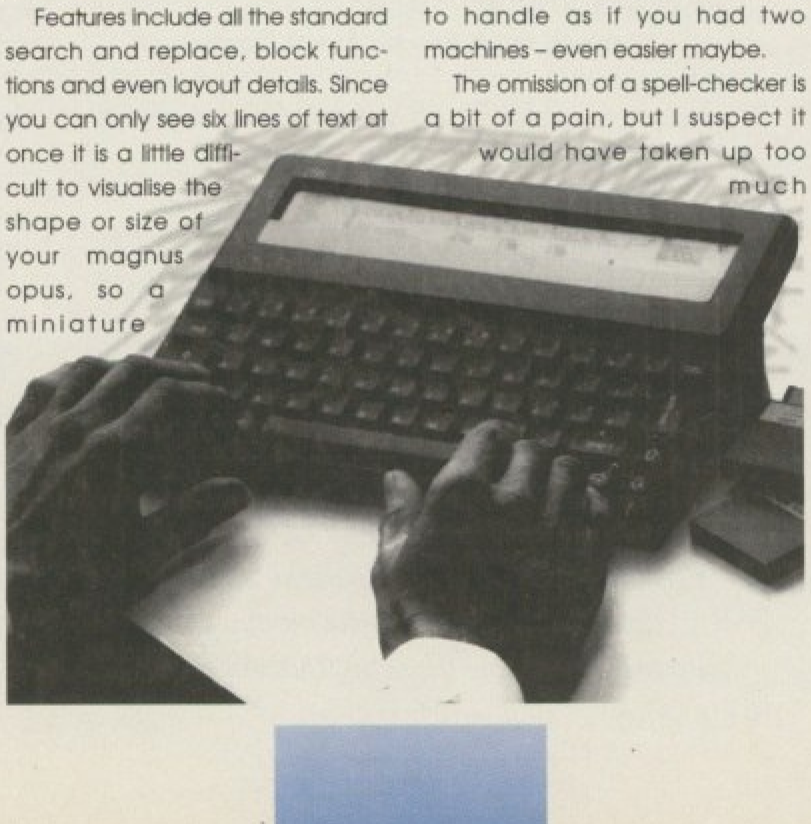
Features include all the standard search and replace, block functions and even layout details. Since you can only see six lines of text at once it is a little difficult to visualise the shape or size of your magnus opus, so a miniature overview of the page is created at dot-per-character resolution down the right hand side.

All the functions have hot keys, and thoughtfully, a display informs you what keys you have pressed, as it would be easy to get lost on three-key combinations with only the tactile response of the rubber mat to go by.

One of the most impressive features is the way that when you recall a document you start up in exactly the same place you left off – not only on the same line but the same place in a word.

This, working in conjunction with the task-freezing ability of the Z88, make multiple documents as easy to handle as if you had two machines – even easier maybe.

The omission of a spell-checker is a bit of a pain, but I suspect it would have taken up too much valuable RAM. PipeDream is more than just a good word-pro – it actually doubles up as a spreadsheet. Perhaps not up to 1-2-3 standards (it doesn't draw silly pie charts) but certainly handles numbers fairly ruthlessly.



In fact, if you get the special PC-Link you can translate PipeDream calculations into 1-2-3 format.

The powerful searching and sorting facilities make it very handy as a database too.

The real power of this package isn't the fact that it can do all these things, but that it can them at the same time and in the same document. It is a fine example of a fully integrated package.

The second piece of software provided is an interpretation of BBC BASIC. Although not really a standard to judge BASICs by, it's certainly more fun than AmigaBasic.

Of course it is not possible to use most of the display modes, but you could still knock out a Game-boy beater if you get stuck on the Northern Line.

Talk to me

One problem usually associated with portables is the hassle of getting the data back. But not here – the Z88 has inbuilt software for sending and receiving files through its joystick style serial port.

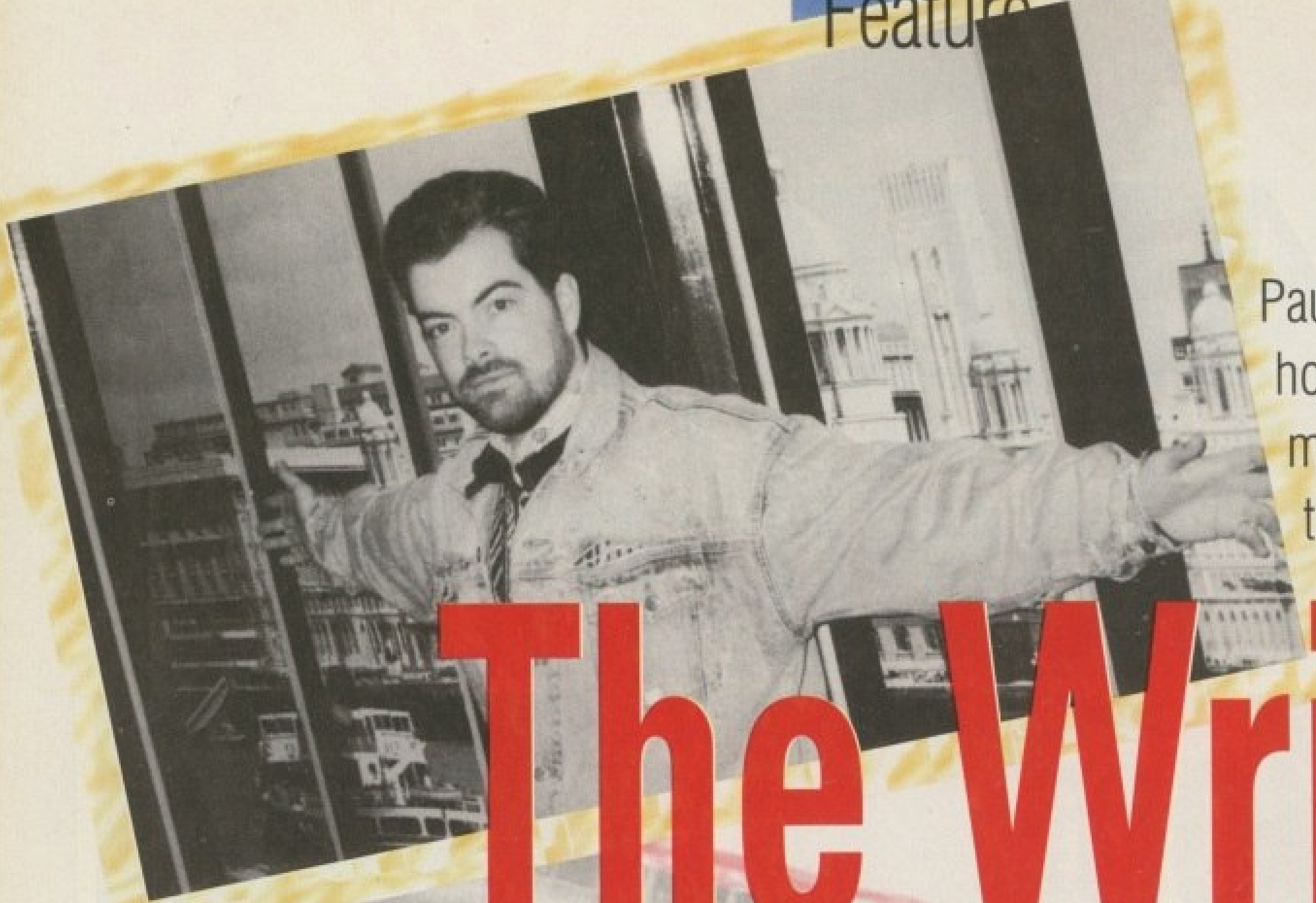
Leads are available for connection to the PC and the Mac, and it really isn't that much of a strain on the old grey matter to hook it up to an Amiga.

The Z88 can also drive a printer direct should you want to produce hardcopy on the move.

Another solution is to use the ranger disk device which will allow you to write files directly to PC format disks, which you can then transfer back to the Amiga via CrossDos or similar program.

So if commuting computing is what you're after go for the slim black box.

The Z88 is available from registered outlets at £199.95 plus VAT.



Paul Austin finds out how a professional makes music on the Amiga

The Wright S



Almost every computer musician dreams of the day his creation will appear as part of the latest software smash. Unfortunately for most of us the chances of our dreams turning to reality are less than likely.

To improve my odds for musical immortality I asked one of the pros to provide some guide-lines on what it takes to make the break into the serious side of Amiga music.

Tim Wright is probably best known for his work with Psygnosis, having produced a variety of tunes and effects for many of their recent releases.

Most notable is Beast II, his biggest project to date, and one of the best musical arrangements yet produced for a commercial product.

So with Beast still ringing in my ears, it was off to Liverpool to meet the man and face the music.

How it all happens

The process of getting a commission starts with a phone call, at which point Tim picks a time and a place, and heads off to find out what's required.

After the outline has been drawn it's time for the bad news as far as the customer is concerned – the cost.

This can vary from as little as £50 to as much £1,500 depending on the size of the project. I was surprised when Tim mentioned that although graphic artists and programmers receive royalties for their efforts, musicians don't.

They only receive a flat payment, no matter how well the product sells – in my opinion a totally unreasonable state of affairs.

Needless to say a little wrangling is required, and after the handshakes and signatures it's down to hard graft and headaches slaving over a hot synth.

The projects can vary considerably. Some may only be SFX while others may be a single piece of music. On occasions a monster project appears requiring everything.

These may call for as many as 14 separate tunes, each of which must be in the customer's desired style.

Tim works with Noisetracker, but says that's just his personal preference. Almost all Soundtracker clones can either be converted or used direct by the software houses, so there's no need to change your allegiances just yet.

When the music and sound effects are complete it's over to Tim's partner in crime, his younger brother Lee, who has re-written the Noisetracker play routine and does all the coding for Tim's creations.

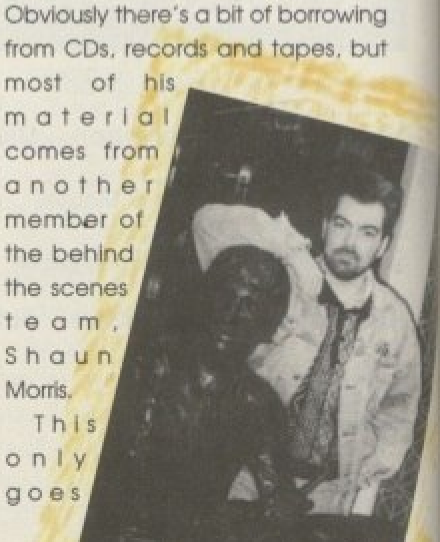
As a result of his brother's work the tunes take up the absolute minimum of disk space – another very attractive feature in the eyes of software houses.

Squeezing a quart into a pint pot is the order of the day. Music is an afterthought on most projects. Space on the disk is often limited to as little as 35 to 40K, not much when you've got to squeeze in four tunes and the samples and sound effects.

The maximum amount of space Tim has ever had to fill was only around 110K. People with extravagant tastes in the sample department might well have to get used to cutting the odd corner!

If Tim doesn't use other peoples samples or library sounds, where does he get the tools of the trade? Obviously there's a bit of borrowing from CDs, records and tapes, but most of his material comes from another member of the behind the scenes team, Shaun Morris.

This only goes

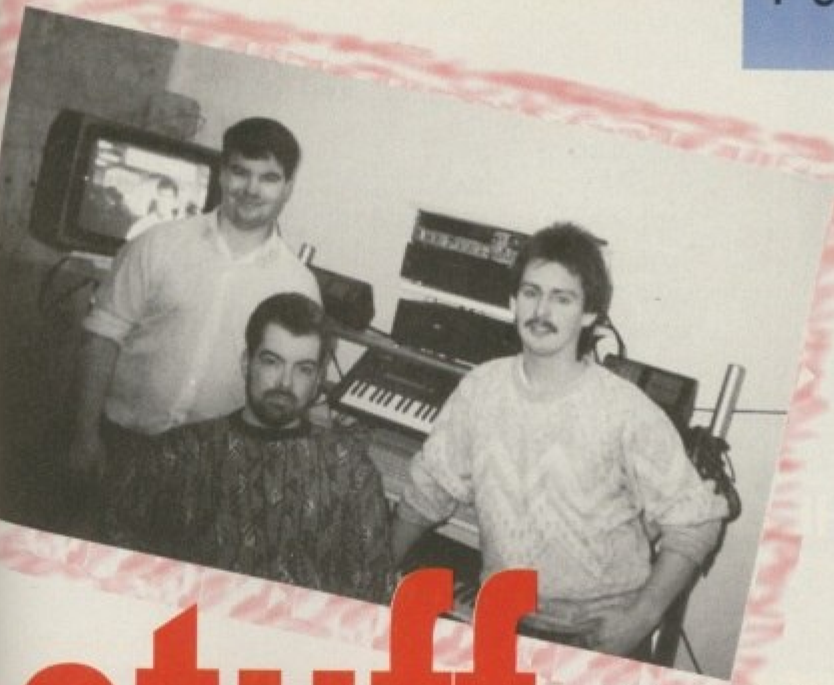


Tim's choice

Tim initially used a Trilogic sampler which he recommends as an excellent first step. If however you're a real enthusiast the Audio Engineer is his choice, and in his opinion the best in the business.

But be warned, the impressive performance is reflected in the hefty price.

stuff



Tim Wright, with brother Lee and best mate Shaun Morris

to prove that behind every great musician there's a lot of mates, not to mention a huge pile of MIDI equipment. Shaun's admirable collection of keyboards regularly fall victim to Tim's insatiable desire for samples and sound effects.



Tricks of the trade

If you are a beginner a few tech tips might help make your first steps less painful and more professional. One of Tim's favourite effects is modulation. Most Soundtrackers support it in one way or another and Tim uses it regularly to produce some weird noises by varying the effect on a particular voice.

Using a long looping sample you could intermittently switch the volume from maximum to zero, one step after the next. This produces a phasing effect, excellent for guitar sounds and creating a moody feel.

If, for example, you have a sound you want to run from a low octave to a high one, take two samples, one at a high end of the scale and the other at the low.

This is because most sounds especially, high ones can distort badly, producing all kinds of strange aliasing, whistling and phasing effects when played too far out of their own register. That's why high quality sampling keyboards often have a separate sample at each octave. Making two samples of the same sound will obviously take up valuable space, but this sacrifice is easily outweighed by the improved quality.

Try to make as much use as possible of the Amiga's stereo abilities. Perhaps place a lead voice on one side, with a slightly staggered dying echo following on the other – simple but effective.

Progression

After our brief rundown of do's and don'ts I asked Tim what the future held for Amiga music.

"CD-ROM – CD-ROM that's what's next, it's going to be great, it's going to be massive. You can't imagine what it's going to do for the business.

"Just think, 650 meg to fill. No more Soundtracker clones, just pure digital sound recorded direct on to digital audio tape and transferred straight on to CD. It's going to be wonderful."

If he is right, who knows, the sky's the limit. Imagine CD quality music and sound effects with every new release – not to mention all the money to be made producing it.

A number of software houses are busy right now working out what best to transfer over to CD.

Tim's setup is very similar to that of most Amiga owners. The musical gaps are filled with a little help from friends and family.

If he can do it, maybe you can, too.

So I advised Tim to keep an eye in the mirror because we're right behind him...

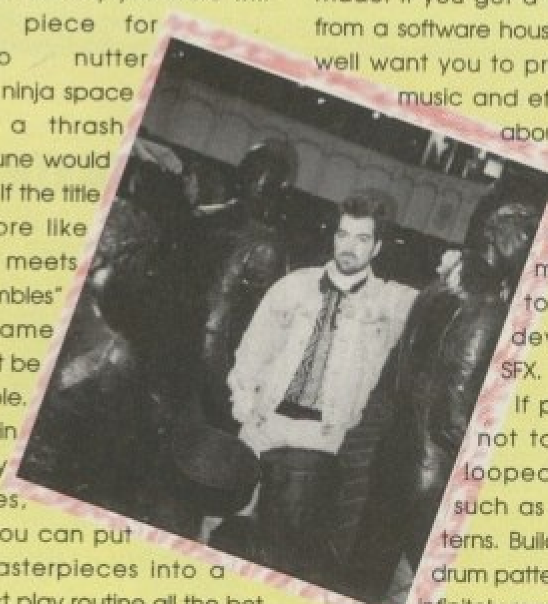
A foot in the door

Getting your first break is the most difficult step in any area of the arts. Tim's big chance came through a brief career in demos. The release of the Puggsy demo led him into the commercial market and the start of his success.

Demos are a tried and tested approach to fame and fortune. If you get your name and number on the occasional wobbly scroll routine it shouldn't be long before you'll catch someone's ear.

A more obvious approach is to send your work to the software houses themselves. It might be a good idea to keep a tab on recent trends, but don't duplicate a specific style – they already have someone who can do what's been done before.

Originality is an obvious requirement, but if you want to sustain your success you must be versatile. Lets say you were writing a piece for "Psycho nutter mutant ninja space scum" a thrash metal tune would be fine. If the title was more like "Bambi meets the Wombles" the same wouldn't be as suitable.



Send in a variety of styles, and if you can put your masterpieces into a compact play routine all the better. If not, include the Soundtracker you used on the disk, along with your work.

The software houses receive a lot of material each week, so if they have to mess about to hear your work they probably won't bother.

Buy yourself a sampler and don't just rip sounds out of other people's work. There are two main reasons why ripping is a bad idea. Firstly if you particularly like something everyone else will, and consequently the people you're sending it to will have heard it a hundred times before.

Secondly using other people's sounds does nothing for your individual style, and in this business standing out from the crowd is everything.

This grow-your-own approach applies to library samples as well as those ripped from games or demos. The samples on library disks have usually been played to death, and as a result will make your material appear dated.

Last but not least, think about sound effects, and how they're made. If you get a commission from a software house they may well want you to provide both music and effects. Think about this when you're writing – a whole track might have to be devoted to SFX.

If possible try not to use long looped samples, such as drum patterns. Build your own drum patterns, they're infinitely more versatile.

There's nothing worse than hearing the same sample droning on and on. If you do loop samples, add other sounds on occasion to break them up a little.

In the last chapter in the three part round up of the Roland Desktop Music System I'll take a look at Roland's answer to amplification, the ultimate add-on to the CM-32L, and the exciting addition of powerful patch editing software to the already impressive range.

You may be on the way to building your own state of the art digital studio in the back bedroom, but if you can't hear your creations all that expensive hardware could be going to waste.

With this in mind Roland have come up with the MA-12C or Micro Monitor, a compact and powerful monitoring system for any a would-be maestro needing portability and instant sound.

All in one

The Micro is a self contained system with amp, speaker, volume and tone controls all built into one very tough and compact unit requiring nothing more than a power point to amplify either a mic, instrument or line input.

A particularly thoughtful touch is the Micro's ability to play all its inputs at once. Most systems require a certain amount of mixing before you can hear a vocal, synthesiser and tape deck simultaneously.

With the Micro you simply set the input level at source and you'll have an instant mix blaring from the speaker.

The only feature missing is a headphone socket, which can come in handy when working with others or playing live.

The control panel is fairly basic with simple bass, treble and volume knobs accompanying the off/on button on the front of the unit.

One of the biggest surprises has to be the relatively low 10 watts output.

This sounds quite meagre, but the output volume should be more than enough for most. Even close range live stage work could be well within its capabilities.

The idea of live performances has definitely influenced the Micro's design. The unit's dimensions are about nine inches high by six wide and six deep, but it still manages to weigh in at five and half pounds. It is all sealed in a case tough enough to take a direct hit from many a flying beer bottle. The sound produced is really quite impressive and would win hands down if compared with most home hi-fi units. However, when the volume is wound up there is a noticeable amount of hiss.

The bass end of the range is impressive. When playing the lowest bass notes there was no sign of the vibration effecting the sound produced or the speaker itself.

So if you want to avoid the expense of buying an amp, speaker and maybe even a mixer, the MA-12 could be the solution. And if you ever have the urge to tread the boards, and want a portable and reliable amplifying system the Micro is ideal. Highly recommended.

The CM-32P is the final element of the DTMS hardware line-up and the ultimate add-on to the CM-32L. Many of you will wonder if there is any point buying yet another unit when you already have eight synthesisers a rhythm module and a bank of special effects.

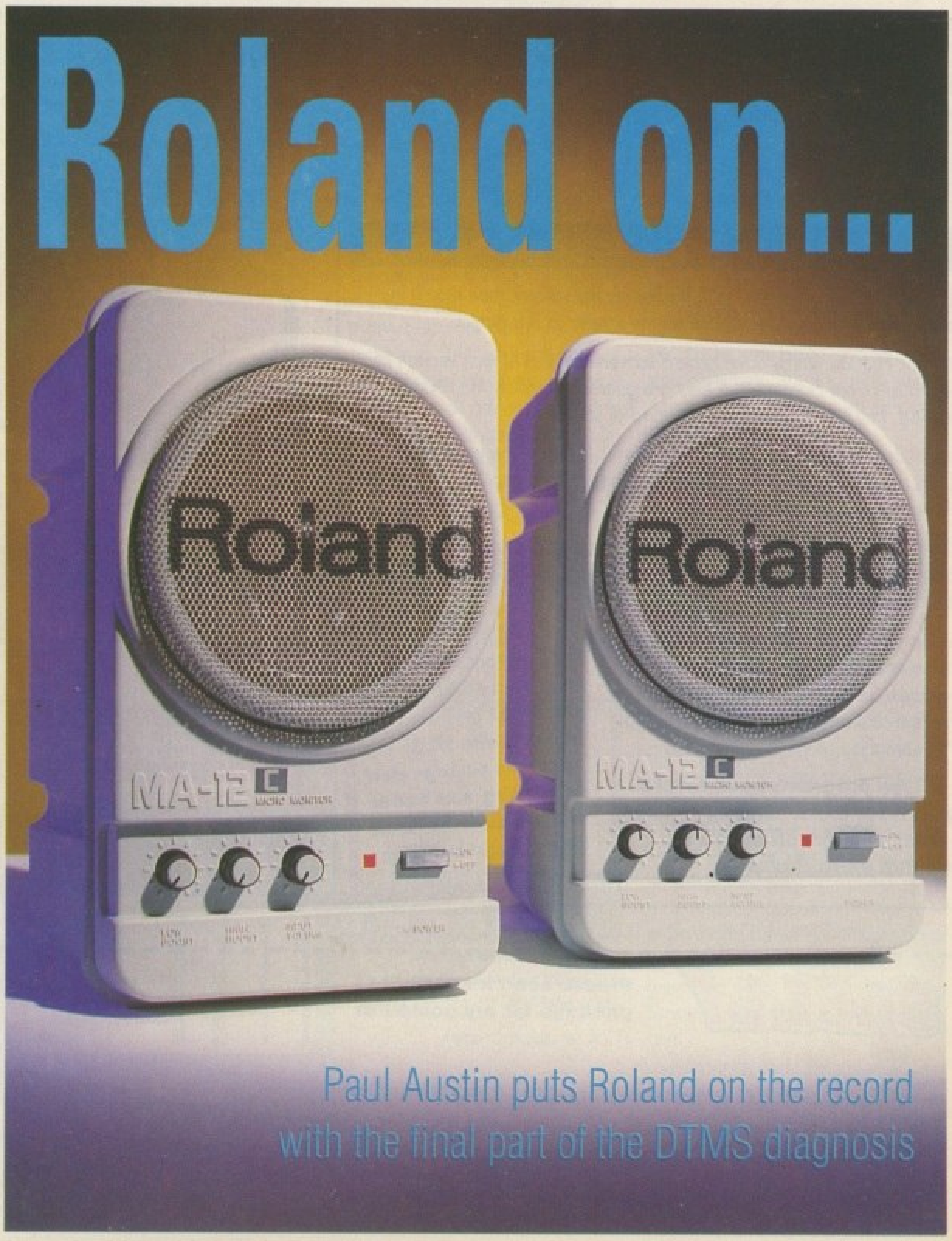
However, the situation is not dissimilar to that of an Amiga owner buying a hard drive or large RAM expansion.

The increase in abilities which they bring to the Amiga is very similar to the increased potential which the CM-32P brings to the Roland Desktop Music System.

The 32P is far less flexible than the 32L and initially contains fewer voices, with no dedicated drum section or special effects. However, the voice quality of the 32P is stunning and easily on a par with any other module or syth I've heard, regardless of price.

Those who read the review of the CM-32 may think my comments contradictory, when I refer to the higher quality of the 32P voices as opposed to those of the 32L.

This is not the case, the 32L is an excellent entry level unit, but the ➤



Roland on...

Paul Austin puts Roland on the record with the final part of the DTMS diagnosis



Passing an exam . . . applying for a job . . . whatever you want to do in life you need to able to SPELL!

There's mounting alarm about the appalling standards of spelling among Britain's schoolchildren. MPs, teachers, parents and employers are all stressing the vital importance of being able to spell correctly.

Yet most homes have what could be the ideal means of teaching spelling – the computer.

Instead of zapping aliens it could be turned into the best weapon of all to deal a body blow to bad spelling. With the help of a brilliant new software package that not only makes practising spelling painless but also loads of fun as well.

SPELL! is unique. It lets the user learn at his or her own pace. They can take as long as they like – or take on the computer in a high-speed challenge!

And this one package is ideal for everyone – with the lowest age group suitable for under-5s, while the more advanced words will stretch even the most able students.

It includes five different tests, each making use of more than 5,000 words – so much variety that you'll never get bored.



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Rocket: *Hidden words have to be discovered in this hi-tech version of the old favourite Hangman. If they are guessed correctly the rocket will blast-off. Fail and all that's left is a load of scrap.*

Lunar Buggy: *Type fast for fun. The aim is to key in the word as it's pulled across the screen by the buggy. It has to be completed before the letters drop down a crater.*

All Mixed Up: *Jumbled letters have to be sorted out to find the scrambled word. To help beginners – and anyone else who is stuck – clues can be obtained at the press of a key.*

Conveyor Belt: *Words pass by on the screen and have to be remembered. Then they must be typed in – spelt correctly. This is a challenging test of both spelling and memory.*

All the programs have several options for extra flexibility – like a timer with on/off option to add that extra challenge.

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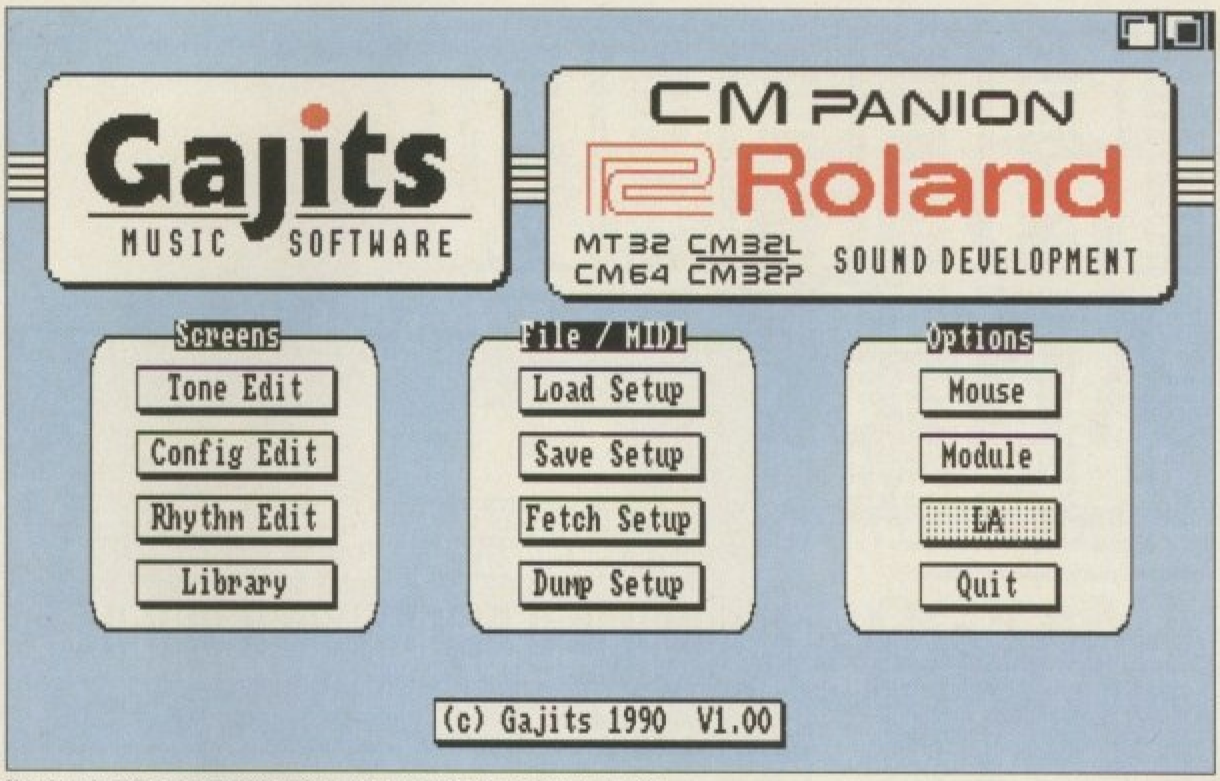
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Simply select the module you want and make the voice of your choice

32P is a much more dedicated creature with only 64 voices designed to complement the 32L by adding a new dimension in quality to the DTMS.

It has a built-in digital reverb, and offers the option to accept PCM cards, each of which contain 64 additional voices. All of this can benefit from the onboard reverb and share in the unit's ability to play 31 voices or partials at any one time.

Added to the multi-timbral efforts of the six synths lurking under the 32P's tasteful grey/beige exterior, your financial future might start to turn a little more rosey.

If you don't want both units, or want to marry the 32P with an existing MIDI system, it will work just as well with any arrangement of equipment, but a partnership with the 32L or MT-32 seems to be where it's most at home. It is perhaps something of a luxury, but if you have cash in the bank and you want it to stay there, I strongly suggest you avoid hearing the 32P in action – it's more than a mere mortal muso can bear.

A little help

One of the most striking features of the CM range has to be the controls, or to be more accurate the lack of them. All you get to twiddle with is one volume knob and an off/on switch. Gone are the days of faders and buttons. All the soldering of old has been replaced by a single blip as the MIDI info flies from your Amiga.



Thank goodness for that, but it does leave the user somewhat alienated from his latest toy, and the prospect of altering anything within the impregnable plastic box looks very slim indeed.

What's required is an electronic tool kit, which can be put to work through your Amiga. The CMpanion is exactly that and makes the process of patch editing as simple as clicking an icon in the CMpanion's well arranged front end.

Beautiful music

By far the most difficult task involved with sound synthesis is the creation of the voices themselves. In the dark ages this would involve extremely tricky editing procedures, which were certainly not advisable for beginners, and invariably ended in awful results.

A friendly alternative was desperately required, and as a result the CMpanion and other such computer-based patch editors were born.

These new software packages revolutionised voice editing and production, bringing the sounds to life and providing a graphic and numeric picture of all the elements of the sounds themselves.

Changing tones

Let's say you have a particular voice in the 32L you like, but it needs a little more reverb and perhaps a touch more sustain.

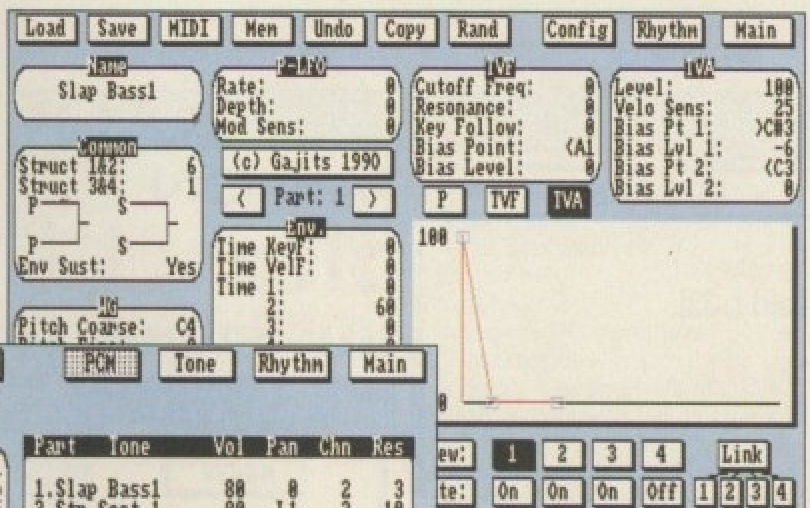
To change it, all you have to do is load up the CMpanion software and import the voice. Add a little more reverb by either altering the type of reverb used or perhaps changing the parameters of the present one.

To alter the sustain, enter the tone editor and select the partial or partials of the sound you wish to change. These are shown as simple graphs which can be dragged into a new shape with the mouse. A click on the right mouse button and the new sound will be played instantly, so keeping track of events is very easy.

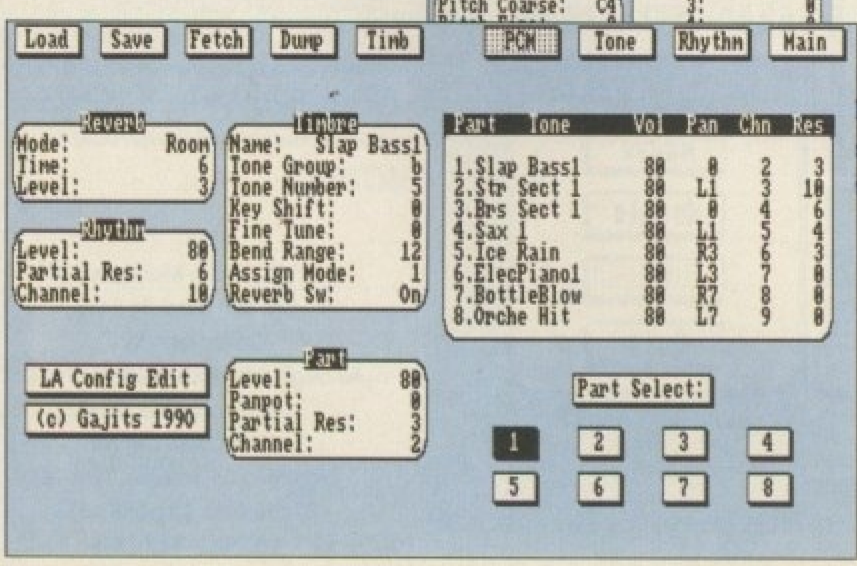
If you're happy with your creation it can be saved straight back into the module in any position you want, to become a permanent feature every time you turn on the unit.

All sounds from the modules can be saved on to disk, so a potentially huge library of voices can be created in this way.

The process doesn't have to stop with altering current sounds, you can also create new ones ➤



Add the effects and set your patches – perfect for the 32P and PCM cards



Edit the old and create the new all from the comfort of the keyboard



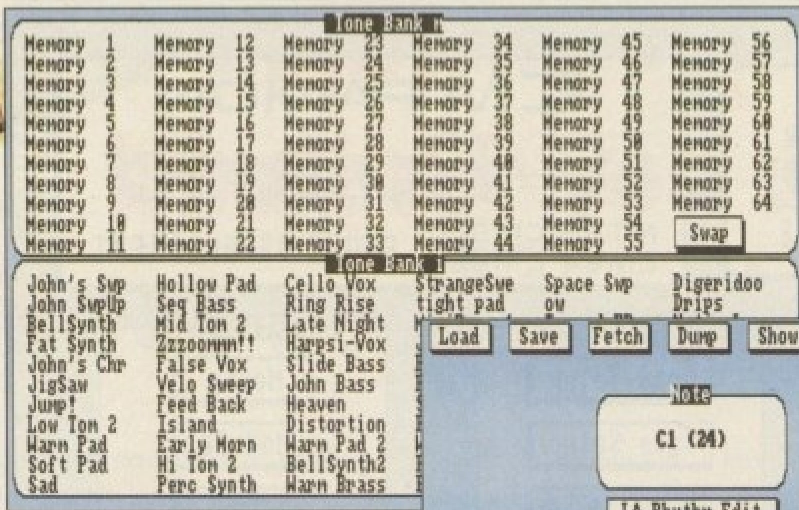
from scratch. A random tone generation option has been added to use masks or basic sound structures, which it then elaborates to create new voices. You can tweak these new creations and save them to disk or add them to the module's permanent repertoire.

You can also combine your favourite aspects of existing sounds by mixing their component partials to create new sounds, and while we are on the subject of new sounds, a completely new set has been incorporated on the disk to get you started.

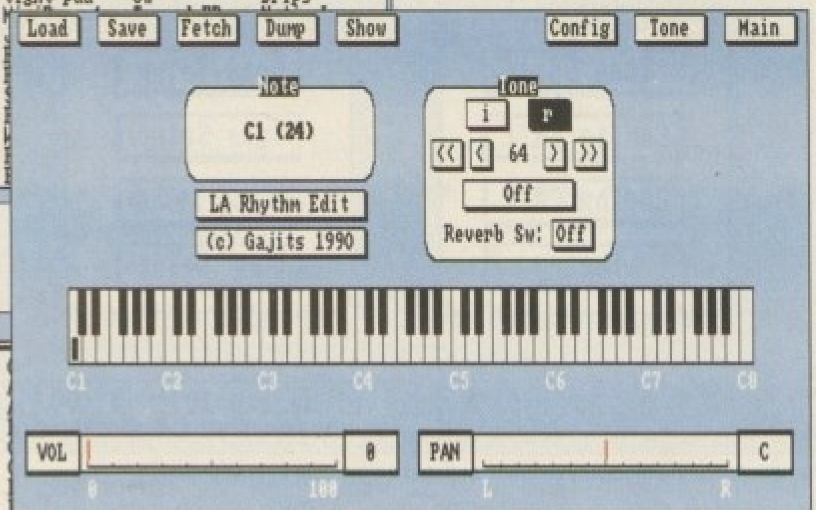
The program also happily multitasks with other applications. So given sufficient memory you could edit sounds as you work and instantly hear them in the context of the piece.

Once you've created a bank of sounds they can be loaded straight into the module with the auto-injector program accompanying the CMpanion software.

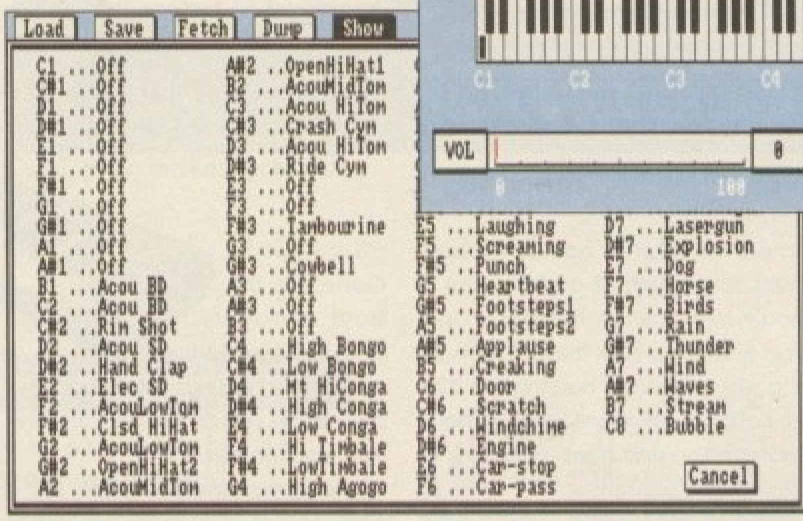
It's an easy way to make fast alterations without having to load the entire program for every change you make to the module's memory.



Instant access to all your creations in either memory, disk or module



Alter the pan, volume or position, load save and swap any drum or sound effect you wish



A quick rundown of what's where and what's left to fill

Difficult decisions

By far the most difficult decision involving the extras in the CM range is not the usual dilemma of whether to buy, but rather one of which to buy first. Should it be the stunning ready made sounds of the 32P with its ability to accept PCM cards, or perhaps you'd prefer the added flexibility the CMpanion software brings to the vocal ability of the 32L.

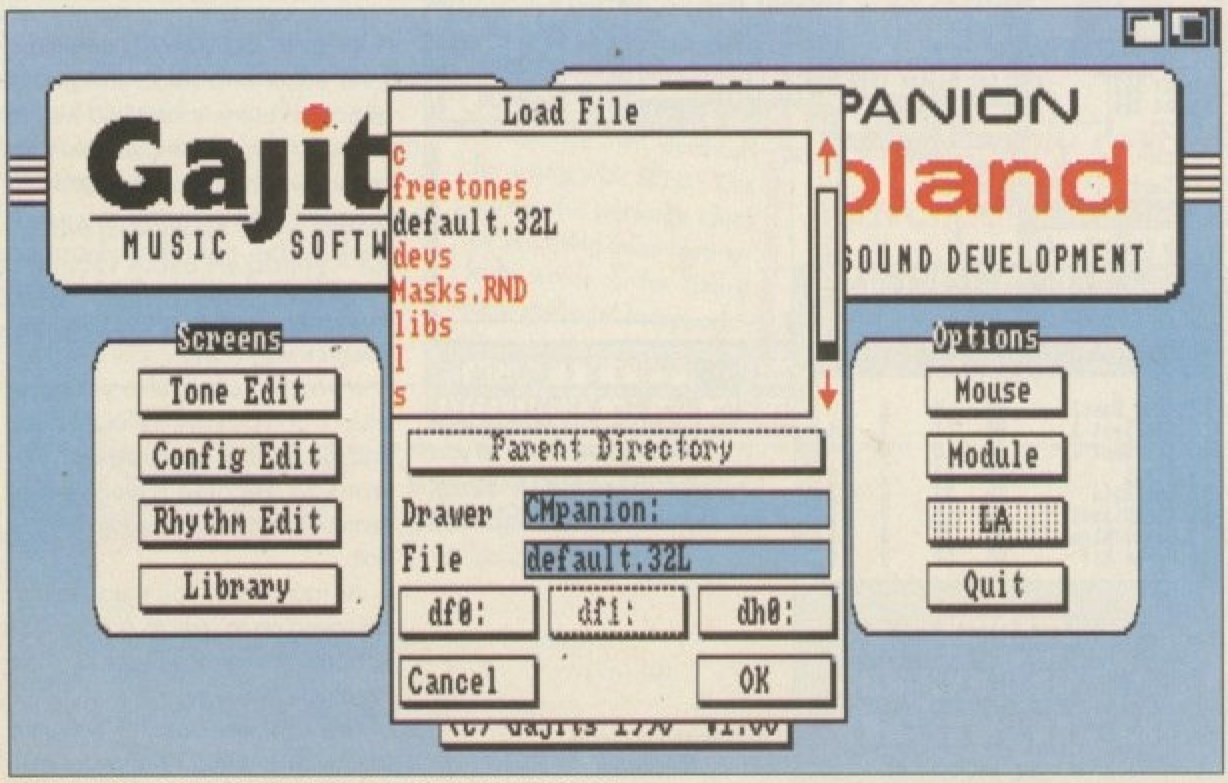
The CMpanion can also be put to work on the 32P and PCM cards, but the changes made are not permanent.

If you wanted to add more reverb to a voice the parameters can be applied to it on a PCM card. But they don't become permanent and as a result need to be added each time you want the new voice to appear in your arrangements.

Given sufficient liquid assets I'd be tempted to plump for the 32P as my first choice. However, if your cash pool is low, the CMpanion can do amazing things to the already impressive 32L, as well as squeeze more superb sounds from the other elements in the range.

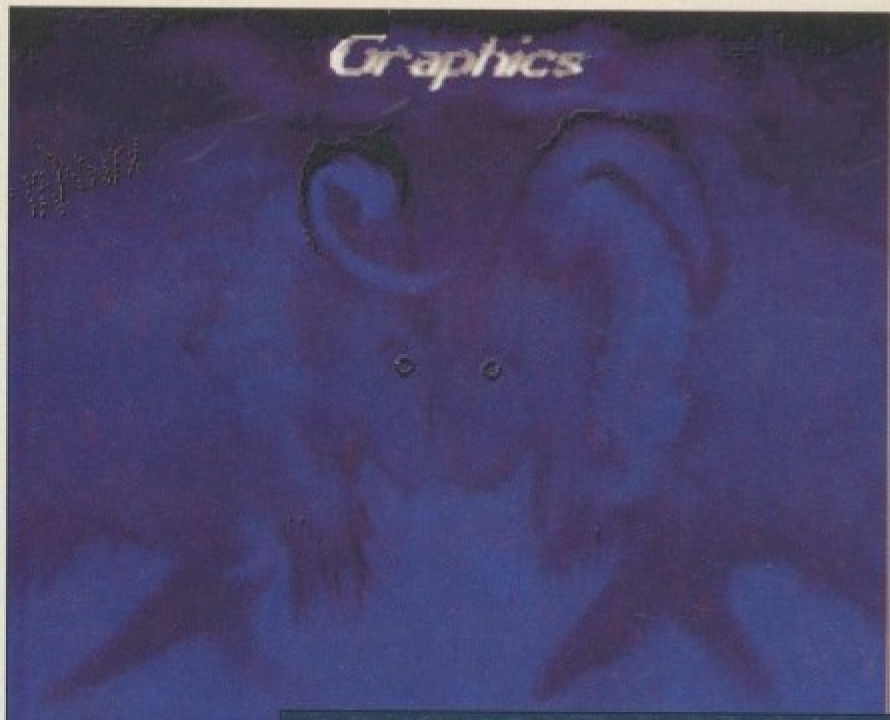
Well that's about it for Roland's DTMS. Not perhaps the cheapest range of Amiga add-ons, but nevertheless a big step in the right direction for Amiga music.

I hope to be covering some of the alternatives in the MIDI market in forthcoming issues, so watch this space and all will be revealed...

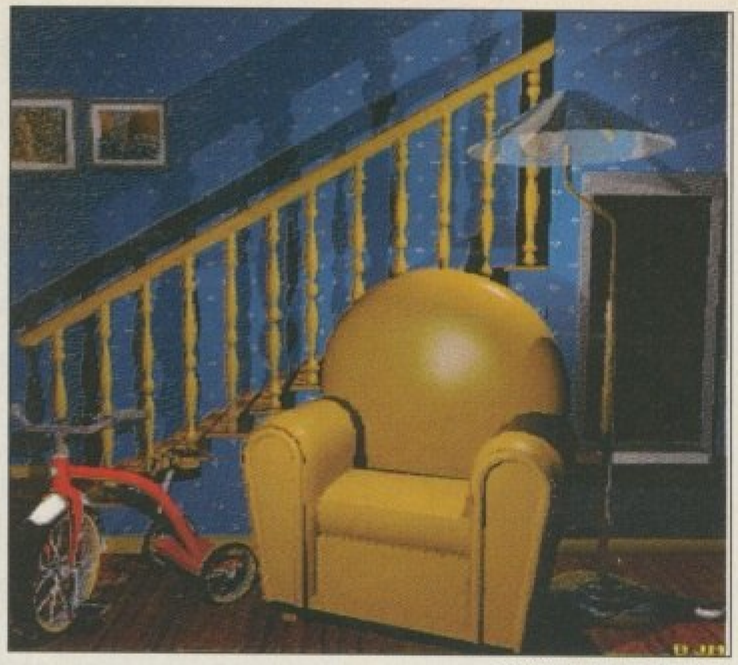


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Blavegg: Bjarne Melsom



Dolphins: Michael Jerome, London



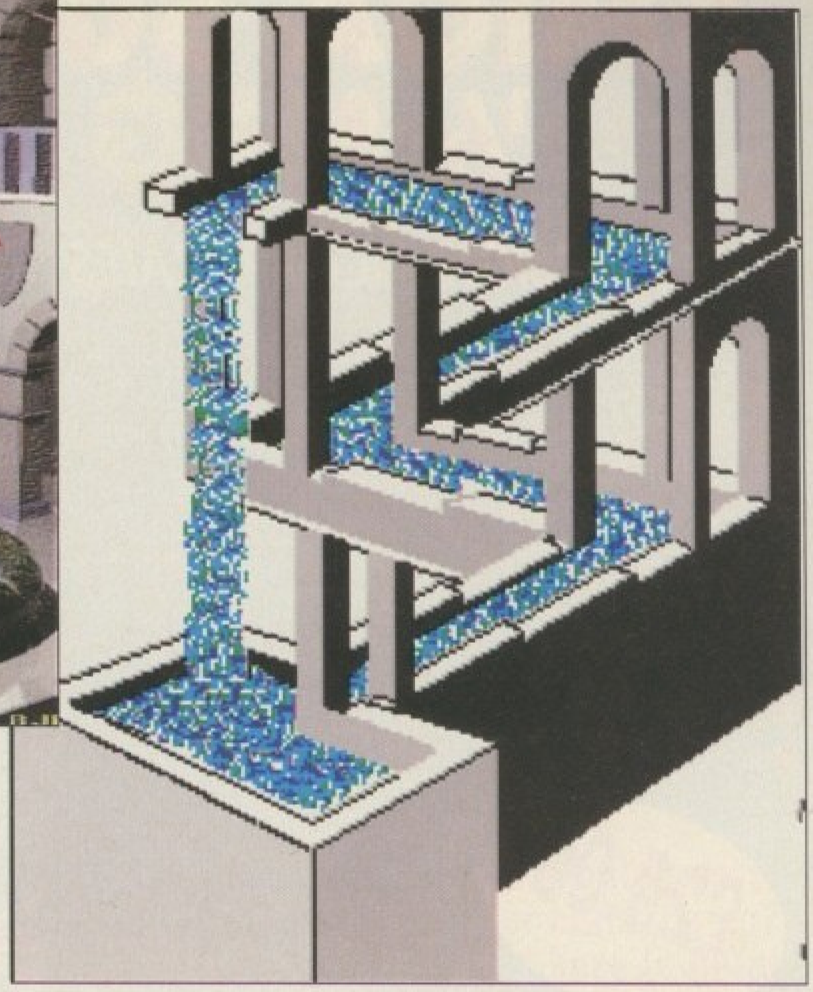
Marmon: Bjarne Melsom



Seng: Bjarne Melsom



Plaza: Bjarne Melsom, Oslo, Norway



Waterfall: Philip Chambers, Staines, Middlesex

the Gallery



Faerie Knight: Paul M Rettey, Aylesbury, Bucks

You'd be surprised to learn how much correspondence we receive from Amiga users in Scandinavian countries, especially Norway and Denmark. The Amiga community is obviously thriving in those countries, and we hope they continue to buy our mag and find it useful!

If Bjarne Melsom's contributions to this month's Gallery are an indication of the standard we can expect from our readers in that part of the world, then the Amiga is obviously being put to excellent use in foreign parts.

Mangé takke, Bjarne!

Interactive Rescue

Printer out of puff?
Computer cracking up?
We are here to help!

Write to Amiga Computing,
Europa House, Adlington Park, Macclesfield SK10 4NP

What's up DOC?

Re the letter in February's issue about error code 205 on .DOC files. I too experienced this problem when running the coverdisk from a Workbench disk.

My solution is to select the .DOC files, click 'INFO' under the WORKBENCH menu and alter the default tool from C:PPMORE to :C/PPMORE so that the current disk is searched for PPmore and not the Workbench disk.

Perhaps you could have a word in your disk compiler's shell-like and get him to do the same so that I don't have to do it every month!

P Borton, Peterborough

Your solution works splendidly if you boot with your own system disk, then run the coverdisk from there. Anyone who's doing this should take heed!

However, we get many more letters from people who've copied individual programs over to another disk which are then run on their own.

It seems there are a great many home compilation fans out there, and these people will still have to make sure they copy relevant programs such as PPmore over to the new disk.

You should find the tool types on this month's *Amiga Computing* coverdisk more to your liking.

Doctor or dumper?

Could someone tell me after putting a disk into DiskDoctor for repair, how to copy it back on to a new disk. When the task is done it tells you to copy to a new disk. This is what's driving me insane. What next?

Please shed some light on this. Being new to this computer lark it is something I've got to get used to. I've looked through all your letters pages for the answer hoping someone else has written in.

Raymond Madden, Glasgow

To copy from one disk to another, either follow the instructions at the beginning of The Disk pages in this issue or, if you want to copy individual files, use the COPY command. This should be used in the form

```
COPY <filename> TO <target directory>
```

See page 2-6 of your Enhancer Software manual for full details of the syntax. For example if you wanted to save the SETMAP routine from the SYSTEM directory of your Workbench disk and copy it to a disk called 'Backup', you'd type

```
COPY SYSTEM/SETMAP TO Backup:
```

The best advice is to use a friendlier disk salvation program, such as FixDisk 1.2 from last month's coverdisk, or DiskSalv. Both are public domain, available from most PD libraries, and both make it easier to copy files to a new disk.

Easier still would be Central Coast Software's Quarterback Tools, which is designed for ease of use. This is a commercial program, however, and costs around £40. If you think the money is well spent, phone Softmachine on 091 510 2666.

And on the same subject ...

As a B2000 owner I realise I'm perhaps in a minority, but why oh why aren't there more hard disk utilities about? All I want is something like Norton Utilities for the PC that'll heal a fragmented disk. Or how about a virus checker?

Also, is it possible to output the Amiga's sound to tape? It's all very well sampling and creating masterpieces, but I don't fancy the prospect of sticking a mike next to my inadequate monitor speaker.

John Silver, Derby

There are plenty of B2000 owners around, and you wouldn't be the first to find a dearth of decent utilities for hard drives.

I would refer you to FixDisk 1.2 and Quarterback Tools as mentioned above. Both can salvage lost or damaged files from hard drives.

Virus killers have taken a while to catch up with hard drive owners, but ZeroVirus 3, Master Virus Killer, and VScan are three good choices, all of which are free or shareware.

They will all check a hard drive for file viruses and were examined in last month's virus article.

Your music problem is easy enough to solve. Instead of plugging your Amiga's phono outputs into your monitor, just plug them into your tape deck. The two outputs, audio left and audio right, each carry two of the Amiga's four voices, so if you want all four on the tape, they will have to be brought together. This is easily accomplished.

You can buy a Y-junction phono plug which takes the two outputs and combines them before input to the usual sort of tape machine microphone single jack socket, or you can do it with a cheap Tandy mic mixing box for £22.95. Either way, you should be able to record a basic tape of your Amiga music with little outlay.

You'll have to ensure you set the levels and so forth before committing something to tape, but you will already have MED from our coverdisk, so that should be no problem.

You won't get professional results, but your music will sound a great deal better than it would if recorded via microphone from a hissing monitor speaker.

Speed not power?

I've a friend who owns an Archimedes A3000 and she is always raving on about MIPS and ARM chips. Now I don't have anything to do with "My computer is better than your computer" arguments, but I must admit to feeling a bit pedestrian from time to time.

My A2000 serves me very well, but is it now too slow for today's software?

I'm thinking about upgrading to a faster machine by way of a processor add-on, but this same friend tells me they're almost useless on the Amiga as they can't speed up the memory handling. Not sure how much of this is

computer snobbery on her part, but I thought I'd better check before spending hundreds of pounds on an upgrade which might not solve my problems.

Jayne Fellows, Leeds

You say she's a friend? An Archimedes owner who slags off Amigas? With friends like that, who needs ST owners?

The problem is, she has a point. The Amiga is stuffed with custom chips designed to lighten the load of the central processor.

The Enhanced Chip Set, as it is called, is what to a large extent sets the Amiga apart from other machines. It controls animation, graphics, and sound, and allows the CPU to get on with the number-crunching.

Great, but these chips still toddle along at the same speed they always have. While CPUs have advanced to 33MHz and beyond, the ECS chips are still puffing away at about 8MHz, and this places certain limits on the effectiveness of an accelerator card.

If you are going to use the machine for maths-intensive applications such as CAD, 3D graphics, ray-tracing, and fractal plotting, the ECS chips will be used proportionally less and the card will have its best effect.

If, however, you use your Amiga mostly for games, or applications which use, say, the blitter a great deal, you will find there's not quite the same speed increase.

I'm assuming, however, that if you're going to spend lots of money on an accelerator card, you will be using it mainly for serious purposes, and for these I would thoroughly recommend such a purchase.

As for memory handling, your friend might be referring to the need for more chip memory for faster operations involving the ECS.

Your A2000 has the full 1Mb of chip RAM, but you might be able to upgrade this in future if Commodore or a third party manufacturer were to offer a Super Agnus (2Mb of chip RAM) upgrade.

She may also be pointing out the need for 32-bit memory which takes full advantage of the faster processors.

You'll find that those boards in need of 32-bit memory, such as the A5000 reviewed this month, usually have a certain amount on-board.

Share and share alike

I always read my copy of *Amiga Computing* with interest, especially the help section, and the response to D B Parkhouse's letter on printer sharing got to me (see the February issue).

If I read it correctly, he wants to connect two different printers to his Amiga and switch between them without having to remove the leads all the time.

If that is so, I am amazed at your reply, as I have been doing just that for a long time now and the answer is simple – a data switch box.

They cost around £13 to £22 and are available from Media Direct or Overseas Media (you'll find their ads in various issues of the mag - Ed). I would recommend a 4-way to give some spare capacity – I use a 4-way to connect two printers and a New-Tek video digitiser, and simply select which one I want to use.

A point to note is to get a serial switch box as this will have 25-pin D connectors throughout, so the only cable requirement is a 25 D male to 25 D male between the Amiga and the box. The existing printer leads should fit.

The box-to-Amiga lead is easy enough to make with a length of 26 core ribbon cable and two clip-on D connectors totalling about £5. Happy switching!

M B Tankard, Worsley, Manchester

I consider myself duly chastised. Anyone considering a connection between more than one printer and an Amiga should now have enough information to be going on with.

My original reply did point out that a simple two way switch would be easy enough to knock up, but I admit I should have mentioned data switching boxes.

Business matters

My friend and I want to set up a PD library, but are not 100 per cent sure of the legal situation. Perhaps you could answer a few of our questions.

- Do we need a licence of any kind?
- Are we allowed to modify any of the games we sell to improve them for our customers? For example altering documents, making programs run from Workbench which previously ran only from CLI, editing icons and so on.
- Are we allowed to distribute programs which specify "no money to change hands" on disks with normal PD programs on them if we lower the price accordingly?
- What is freeware?
- We want to make all our disks auto-bootable, but neither of us has any idea of how to write or install a boot-block or startup-sequence.

Can you recommend a book, or better still, print instructions in the pages of your magazine?

I have already tried using Install from ZeroVirus and copying the C: and S: directories from Workbench. I found I needed a lot of other commands and programs from elsewhere on the disk to make it run properly. I gave up pretty quickly!

- Are we allowed to include shareware in the library?
- Is there anything else we should know?

Chris Johns, Derby

To take your questions one at a time:

- **You don't need a licence, but you'll still have to keep books, have an audit done, and maybe eventually register as a business.**

If you've got a bank manager, ask him to arrange an appointment with the bank's small businesses advisor – they've all got one these days. If that's too daunting, check to see if there's a local business advice centre, and have your queries answered by a professional.

- **You should never alter ANY original material without prior consent from the author, especially when it comes to .DOC files and the way the program runs. Icons may be more freely altered, but if the program has a highly individual icon with, for example, a copyright message on it, you should leave it alone.**
- **Check with the author regarding charges. Such stipulations can sometimes mean absolutely NO money should be involved, but they can also refer only to actual profits. If in doubt, assume the former.**
- **Freeware is free software. You can't charge for it and the author expects no money for it.**
- **There's an article in this very magazine on constructing a bootable disk. There are two particularly good books - Dabs Press' AmigaDOS A Dabhand Guide, and Abacus's AmigaDOS Inside and Out. If you can't get them at you local dealer, phone the Computer Bookshop on 021 706 1250.**
- **You can include shareware as long as you leave the author's shareware message in the program and the docs.**
- **The tone of your letter implies that you expect to make money from your PD Library and that you will be treating it as a business.**

It is against the spirit of PD to make megabucks from it and also illegal, especially if you mess around with someone else's program and sell freeware for a profit.

So be warned.

What's in a name?

As my February coverdisk had a damaged metal cover, I had to remove it in order to load the disk. I then made a copy so that I could bin the original.

However, when the copy is loaded, the Amiga asks for the original in any drive before it will open the copy, so I still need the original disk! Is there any way round this? I don't like the idea of using a disk that is minus its protective covering.

Alan Thorburn, West Kilbride

You can use a disk, even if it has lost its protective metal slide, for as long as it survives without harming your drive. However, as you rightly say, the disk would quickly succumb to dust or toast crumbs, so it's best to copy it straight away.

Your problem lies in the fact that the coverdisk's startup-sequence includes a line which tries to run the Lovehearts program from CD016 – in other words, from itself.

If your copy is not called CD016 the Amiga will ask for it to be inserted. To cure the fault, delete or change this line, or take the simplest route and rename the copy as CD016.

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PD6: Pukadu
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Jason Holborn brings you more news and reviews from the ever widening world of Amiga desktop video

Desktop Video

You may not have heard of them, but California-based Aegis have been producing products for the Amiga ever since Commodore unleashed their wonder machine on to the world back in 1985.

They were one of the very first companies to devote themselves entirely to the uncertain task of producing products for the Amiga. One of their first packages was Aegis VideoTitler, a video titling package that laid the foundations for much of the quality titling software we have today.

Sadly Aegis are no more, but many of their products and on-going developments were picked up and nurtured by Oxxi Incorporated, who are probably better known for their MaxiPlan spreadsheet.

Now, under the new name of OxxiAegis, the programmers of the original VideoTitler have come up with a successor that looks set to raise a few eyebrows.

VideoTitler 3D – Aegis have never been particularly original where naming products is concerned – claims to bring the power of a professional titling workstation to the Amiga.

OK, we've heard it all before, but the Aegis claims certainly seem genuine considering VideoTitler's impressive 3D text handling routines.

With them it can spin, stretch, rotate, tilt and put titles into just about any perspective you care to mention. Add this powerful facility to its impressive 3D extrusion tools and you have what could possibly be the ultimate video titling and effects package.

With VideoTitler comes a large selection of fonts, including colour ones from the well respected Kara and Zuma collections.

But for the ultimate in high resolution fonts Aegis have expanded their innovative PolyFont technology to allow fonts to be manipulated without loss of quality.

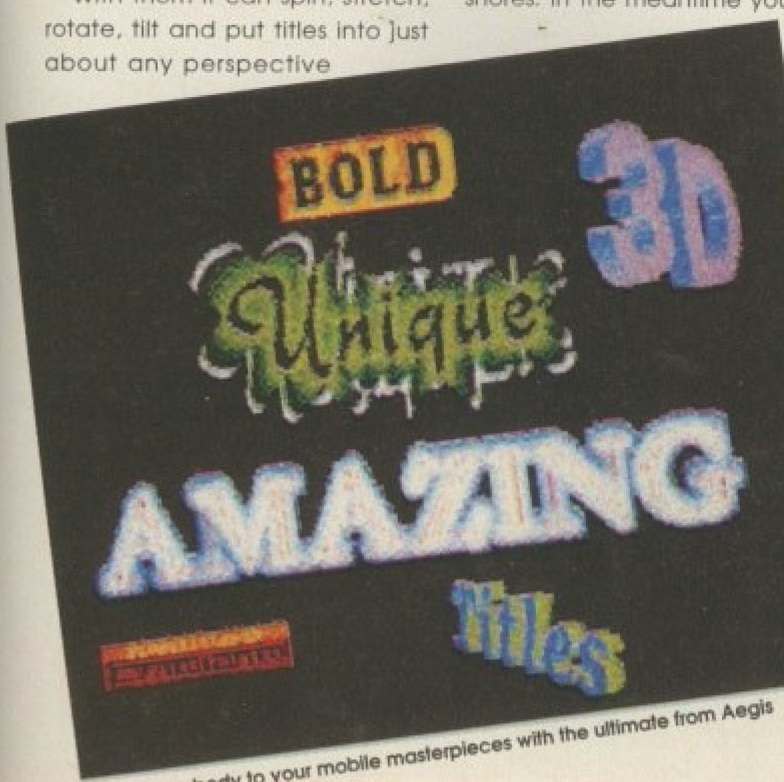
Animated titler

The product doesn't just create static displays like most packages of this genre. Now you can have complex animated displays using VideoTitler's powerful tweening facilities.

Put simply, all you have to do is define the start and ending position for your titles and VideoTitler generates the frames inbetween. These can be saved out to disk in standard IFF ANIM format for further editing within packages such as DPaint 3 and ANIMagic.

In a similar vein to Zuma's TV*Text, VideoTitler also allows you to apply rendering styles to any title. These include such effects as star, neon, glow, embossed and balloon.

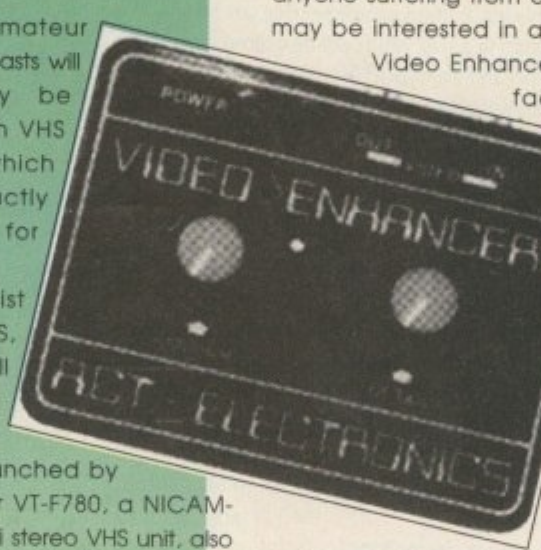
Expect a full review as soon as VideoTitler 3D reaches these shores. In the meantime you can find out more by contacting OxxiAegis's UK distributors HB Marketing on 0753 686000.



Bring some body to your mobile masterpieces with the ultimate from Aegis

Having the kind of Amiga setup that would put Norad to shame is all very well, but often the weakest part of most people's home DTV system is the quality of their video signals.

Most amateur video enthusiasts will undoubtedly be working with VHS decks, which aren't exactly renowned for their quality.



If you insist on using VHS, you may well be interested in a new deck just launched by Hitachi. Their VT-F780, a NICAM-equipped hi-fi stereo VHS unit, also includes powerful editing facilities that make it ideal for desktop video.

The deck includes a built-in flying erase head that allows for clean insert editing and the controls were designed to make the process that bit simpler. They operate in several modes including Quick Edit, which provides precise editing when dubbing video material.

To allow you to access particular parts of your video at speed, the deck includes a comprehensive set of facilities including what Hitachi call Super Indexer and Go To operations.

When used in conjunction with a real time tape counter, which could be generated by the Amiga, you can jump between scenes with ease.

For even greater editing precision, the deck includes three search speeds including a very fast warp speed. These are backed up by high quality still, still advance and slow motion controls.

Picture quality usually deteriorates when such modes are used on conventional decks, but the VT-F780 uses the very latest DA4 heads.

This, Hitachi claim, provides the most stable pictures possible on a home VHS deck. The VT-F780 is available from all good video stockists for a very reasonable £600.

Quality control

On the subject of picture quality, anyone suffering from a lack of it may be interested in a range of Video Enhancers manufactured in this country by Cornwall-based ACT Electronics (0637 881319).

For DTV fanatics on a budget, their entry level VE-1 enhancer will set you back a measly £50. This clever little box of tricks will allow you to transfer video material from one tape to another via a genlock, without loss of picture quality.

If this wasn't enough, ACT claim that the resulting picture quality can often prove better than that of the source tape. This is achieved with the VE-1's comprehensive arsenal of picture enhancement circuits.

The first of these is a colour saturation control which lets you adjust the colour content of the destination signal from nearly black and white – ideal for video digitising – to full colour saturation. This is necessary to avoid colour bleeding, or flaring as it is also known.

Secondly, the VE-1 boasts a video detail enhancer which lets you soften or sharpen the image quality.

Most importantly though, the VE-1 has a built in sync pulse restorer which acts as a sort of simple Time Base Corrector (TBC). When the source signal is fed in, the VE-1 strips it of its own sync pulses and then mixes in its own. This results in far more stable images.

Reader offers

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AMIGADOS: A Dabhand Guide

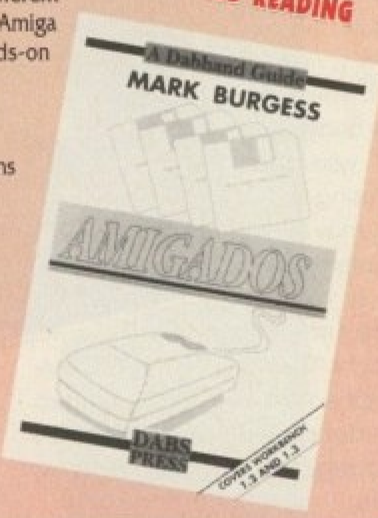
£14.95 AMIGA COMPUTING APPROVED READING

Is a comprehensive guide to the Commodore Amiga's disc Operating System (Version 1.2 *and* 1.3). It provides a unique perspective on this powerful system in a way which will be welcomed by the beginner and the experd user alike.

Rather than simply reiterating the Amiga manual, this book takes a genuinely different approach to understanding and using the Amiga and contains a wealth of practical hands-on advice and hints and tips.

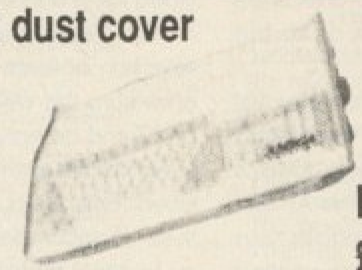
The many features of this book include:

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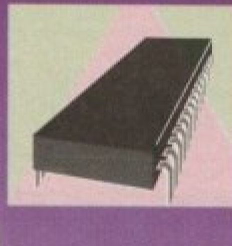
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Machine Code



Margaret Stanger stuns us with her versatility as she presents the first in a series for assembler freaks

Assembler programmers are able to tap in to the Amiga software support that enhances the capabilities of its powerful hardware. They can use the library routines, which are special Amiga resource files bound to the program dynamically at run time.

These routines range over several levels from primitive device management or graphics drawing routines to intuition, which handles overlapping window displays and several input and output devices.

Available to assemblers

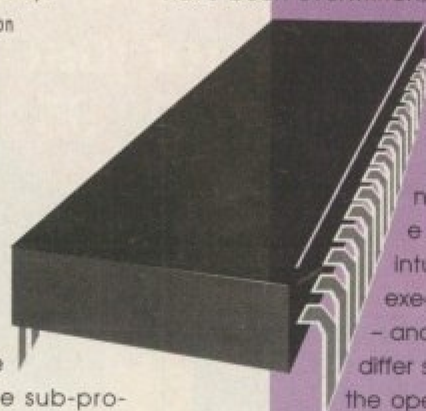
Several libraries are available for use in your applications, each containing a number of routines. Associated with each library is a special .fd file that describes the parameters that the routine takes and the registers used in assembly language.

To access such a routine you must first open the library containing that routine to give you the library base.

This call in itself uses a library routine from the exec library, but the exec library base is always stored in the same place – location 4 – or the external reference _AbsExecBase can be used.

In Assembler, when a library is opened the pointer is stored by the program. If a library routine is declared as an external reference (XREF),the linker can calculate its offset from this pointer:

```
;exec library address always
;stored in same location
XREF  _AbsExecBase
;exec library
XREF  _LVOOpenLibrary
...etc
;dos library
XREF  _LVODelay
..etc
```



Once the library is open its routines can be called as if they were sub-programs or your own machine language routines.

For assembly language, the correct library base must be in register a6. Trying to use a library routine with the wrong library address in a6 will result in a software error, but I still find this a very easy mistake to make.

Any other inputs to the routine go in the registers specified in the .fd files.

After the library routine has been used any returned value will be in register d0, but other registers may have been overwritten, especially a0, a1 and d1. Several libraries are internal – for example intuition, dos, exec, graphics – and they may differ slightly with the operating system. Other libraries, like diskfont, are disk-based and are expected to be in the libs directory of the system disk.

A complete list of the library routines can be found in the .fd files directory, which is usually on the workdisk.

Some I did earlier...

The coverdisk program uses a few of the routines from the dos and exec libraries, but many more are available. In February's CODE CLINIC I included on the coverdisk a list of all the 1.1 library dos and exec routines that were documented.

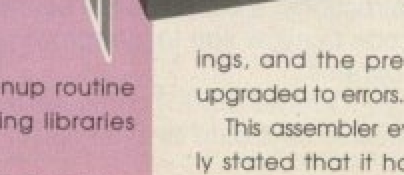
For each one I have listed the input, input registers, output, where applicable, and a short description of the routine's effect.

Moving with the times

The assembly source code file originally named intro.asm was assembled and linked using the aging Metacomco assembler version 10.178 and linked using ALINK.

I decided to move with the times and use a more up-to-date assembler, so the program – now intro.a – was assembled using the assembler from Lattice C version 5.0.2 and linked using BLINK.

Has any one else noticed that whenever an assembler or compiler is upgraded it becomes more picky about the source code?



When I run a piece of old code through a new product I find new warnings, and the previous warnings upgraded to errors.

This assembler even pedantically stated that it had assumed an END directive although none was given. Old fashioned assemblers just grind to a halt when they run out of code.

I suppose the ultimate assembler will optimise my code and then nag me to include more documentation!

Program highlights

The complete program source code listing is available on the coverdisk, but I have included a couple of extracts here.

When run, the program opens the dos, library and intuition libraries and waits for a few seconds.

If the libraries fail to open, the program exits via a cleanup routine. It attempts to allocate a memory buffer and if insufficient memory is available exits in the same way. The program looks for the source code text file to read in, but if the file is not found in the current directory the program will exit.

Any text file could be used, provided the filename is included correctly in the source code. If all is well the first 1024 characters of the file will be displayed on the screen.

```
filetoconsole:
  move.l  dosbase,a6
   ;dos library address
  jsr     _LVOOutput(a6)
   ;obtain a filehandle for output to the console
 move.l  d0,d1
 move.l  buffer,d2
   ;pointer to memory buffer
 move.l  #1024,d3
   ;number of bytes to be read
 jsr     _LVOWrite(a6)
   ;write to the console
rts
```

The program then attempts to open the diskfont library, which is disk-based rather than internal.

It should be present in the libs directory of the boot-disk, otherwise this library will not open and the program will exit without going through the second delay.

```
opendiskfontlibrary:
  move.l   _AbsExecBase,a6
       ;exec library address in a6
  lea      diskfontname,a1
       ;put the library name in a1
  clr.l    d0
       ;open the library
jsr      _LVOOpenLibrary(a6)
       ;store the pointer
  movem.l  d0,diskfontbase
       ;set flag if library fails to open
  tst.l d0  beq      seterrorflag
  clr.l    d0
  rts
```

The program finishes with the cleanup routine freeing allocated memory and closing libraries opened during the program.

Freeing memory that was not allocated or trying to close a diskfont library that failed to open causes a programmer some grief.

Instead of the usual discrete error message Amiga programmers are treated to a sort of fireworks display that lets the whole world know when the program has fallen over.

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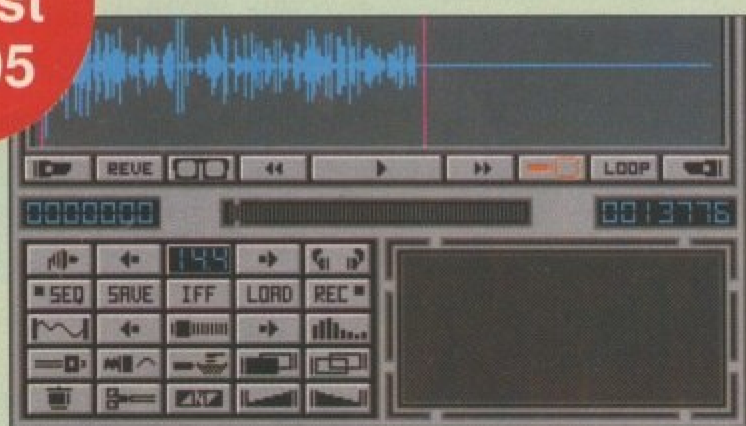
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See order form on page 129

Boolean gadgets, timer events, border structures and more. Margaret Stanger tells it like it is...

Code Clinic

When an intuition window is active input handling facilities are available. Each IDCMP flag represents an event that a program could choose to be informed about by a message in the window's userport. The message includes the class, code and address for the program to interpret.

The demo program on this month's cover disk has chosen to be informed of menu events, gadget selection, key presses and intuition timer events. The new window structure is filled in with the following IDCMP flags set :

```
GADGETDOWN+GADGETUP+MENUPICK+
RAWKEY+MENUVERIFY+INTUITICKS
```

Time is ticking away

Intuition has its own timer which is ideal if you want to be informed that the program has been running for approximately five minutes. But it's not accurate enough to time game cycles, although very easy to use.

An INTUITICKS event occurs about three times a second, and this program counts them up to give a simple timeout after 900 events, ensuring a graceful exit if necessary.

The key to it all

For a VANILLAKEY event the code is the ASCII of the key pressed, if applicable. For a RAWKEY event the internal key code is given. The program scans for codes 0x50 (F1), 0x51 (F2), 0x52 (F3) and 0x45 (ESC) and ignores any other keypresses.

```
/*Handle keys for window,looks for code
for F1,F2,F3 and ESCAPE*/ al = void
HandleKey(code)
long code;
{
code=code&255;
if (code==0x50)
{printf("you have pressed key F1\n");
code=0;return;}
if (code==0x51)
{printf("you have pressed key F2\n");
code=0;return;}
if (code==0x45)
{Quit();code=0;return;}
if (code==0x52) {readdisc();
code=0;return;}
}                \
```

On the menu

Each menu structure normally forms part of a linked list of menus, and each contains a pointer to a linked list of menu items. These in turn may contain pointers to a linked list of sub items.

Filling in the details of these can be very tedious unless a utility such as Power Windows is used. In the demo program are one menu and three menu items. The second menu item has three subitems. The menus are attached to the window with a SetMenuStrip command.

The MENUPICK event needs further unscrambling. The first menu address and the code are input into the ItemAdress command to generate the address needed for the event handler.

```
/*handles menu events*/
void HandleMenuEvent()
      {
      struct MenuItem *object;
      while(code!=MENUNULL)
        {
          object=(struct MenuItem *)
          ItemAddress(&Menu1,code);
          HandleEvent(object);
          code=object->NextSelect;
          }
      }
```

All the latest gadgets

Each gadget is part of a linked list and also contains pointers to the IntuiText and Border structures. These are all simple Boolean gadgets with the release verify activation flag set.

The address of the gadget can be taken from the IntuiMessage structure directly and used in the event handler.

```
void HandleEvent(object)
APTR object;
    {
     if (object==(APTR)&Gadget1)
     {printf("Gadget1\n");return;}
     if (object==(APTR)&Gadget2)
     {printf("Gadget2\n");return;}
     if (object==(APTR)&Gadget3)
     {readdisc();return;}
     if (object==(APTR)&Gadget4)
     {Quit();return;}
     if (object == (APTR)&MenuItem1)
     { printf("MenuItem1\n"); return; }
     if (object == (APTR)&MenuItem3)
     { printf("MenuItem3\n"); return; }
     if (object == (APTR)&SubItem1)
     { printf("SubItem1\n"); return; }
     if (object == (APTR)&SubItem2)
     { printf("SubItem2\n"); return; }
     if (object == (APTR)&SubItem3)
     {printf("SubItem3\n"); return; }
     return;
     }
```

The missing link

There are two source code modules – windowcode.c with the main program, and gadgetsandmenus.c with data structures and the event handler.

They are compiled as normal and linked to each other, the start-up code and the Amiga libraries, using the batch file windowprogram.lnk by the command:

```
blink with windowprogram.lnk
```

Structures or constants defined in one module and used in the other must be declared as an external reference.

Something for the techies

When it is necessary to display a system error message, an application is given more credibility if it appears in front of the application window instead of the CLI or Shell window.

This can be done by finding the current task and altering the window pointer in the Process structure. The original pointer is saved and put back before the program exits. Lee and Kevin of Digigraphic showed me how to divert the less drastic error messages in this way.

In the current program the error message can be demonstrated by removing the disk from the drive and pressing F3 or selecting the readdisc gadget. The program continues when the disk is replaced. I have not yet found a way to divert the disk read/write error, or software error messages.

● NEXT MONTH: Displays using graphics pimitives.

Message received and understood

If there is a message in the userport one of the chosen events has occurred and the program extracts the class or type of event, the address, and the message code.

The program replies to the message to free up memory for more messages and processes the message data.

```
void Handle_IDCMP()
  {
    APTR object;                /* NEEDED FOR EVENT HANDLER */
    for (quit_flag = FALSE;!quit_flag;)
      {
        if (1<MainWindow->UserPort->mp_SigBit)
            {
        while (!(message=(struct IntuiMessage *)GetMsg(MainWindow->UserPort)))
              {
             if (timecount > 900) Quit();
              }
            }
       class = message->Class;  code = message->Code;  /* Get event info */
       object=message->IAddress;
       ReplyMsg((struct Message *) message );
       switch ( class )
            {
             case MENUPICK:     /*menu item selected*/
                  HandleMenuEvent(object);
                  break;
             case GADGETUP:     /*gadget selected*/
                  HandleEvent(object);
                  break;
             case INTUITICKS:    /*about 3 times a second*/
                  timecount +=1;
                  break;
             case RAWKEY:     /*key pressed*/
                  HandleKey(code);
                  break;
            }                          /* end switch */
      }                                 /* end forloop */
  }
```

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MIDI devices not talking to each other? Jason Holborn is the man with the knowledge

Music

MIDI in itself is a fairly simple beast, but it is surrounded by a plethora of complex jargon and associated problems that everyone using it must face.

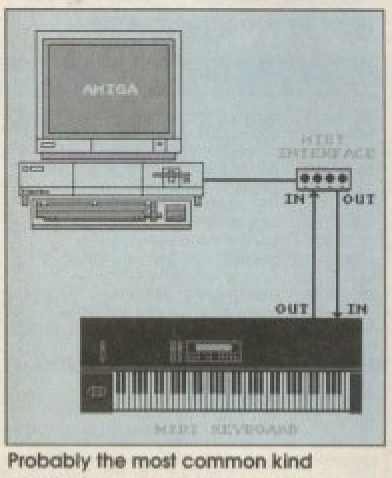
One of the areas providing the greatest number of headaches is undoubtedly that of connecting up musical equipment via those mysterious little 5-pin DIN leads.

OK, the theory behind MIDI networks looks pretty simple, but putting theory into practice can prove to be somewhat more involved.

As you probably already know, there are basically three different types of MIDI connector – In, Out and Thru.

Before you can start designing your own MIDI networks, it's important to understand what each type of connector is capable of transmitting.

MIDI In: Receives information from any MIDI device connected to it. This can be received from just about any device capable of generating MIDI information – synths, sequencers and suchlike.



Probably the most common kind of MIDI setup among home users

MIDI Out: Allows a MIDI instrument to talk to other like-minded devices. Contrary to what you may think, this connector only transmits MIDI information generated by the device it is built into.

Even if that device is also receiving information via its MIDI In connector, MIDI Out will not transmit information generated by other devices.

MIDI Thru: In complete contrast to the MIDI Out connector, this provides an almost direct link with the MIDI In connector. As a result, it cannot transmit MIDI information generated by the device it is built into.

The connector is best used with devices that cannot be played live – a sound generating device that does not have a built-in keyboard. MIDI synth and sampling modules are good examples.

In this way it is possible to connect several such devices together in serial and control all of them from a single MIDI Out source, usually a sequencer.

Below are a few examples of different types of MIDI network. Obviously it would be impossible to document every variation on these themes, but it should be possible for you to build up your own network by using these three examples as a basic framework.

Here's a quick run-down of each.

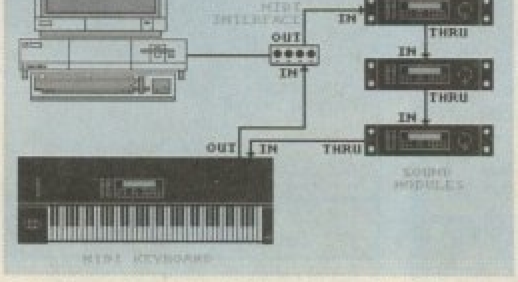
MIDI setups

In the first example we have what is undoubtedly the simplest MIDI network you're likely to encounter – a single keyboard connected to a computer-based sequencer via a MIDI interface.

This is probably the kind of setup most home users will have, so it serves as a good place to start.

Hooking up the network is child's play. As long as you remember that MIDI data must flow from the MIDI Out on the first device to the MIDI In on the second, you're unlikely to go far wrong.

It is important, however, that the network does run in both directions. If it doesn't, the flow of MIDI information will be one way only – the computer talks to the synth, but the synth can't pass information back to the computer.



Include sound modules for those special effects

Secondly there is a slightly more complex setup – the same basic keyboard and computer are still there, but some extra sound modules have been added.

This again is quite common, because it will extend the type and number of sounds available to you.

If you already have a MIDI keyboard – this should always be the first MIDI device you should buy – then MIDI sound modules are a very good bet.

Not only do they take up less room, which is an all-important consideration within a modern recording studio, but they often tend to be cheaper than their keyboard-based counterparts.

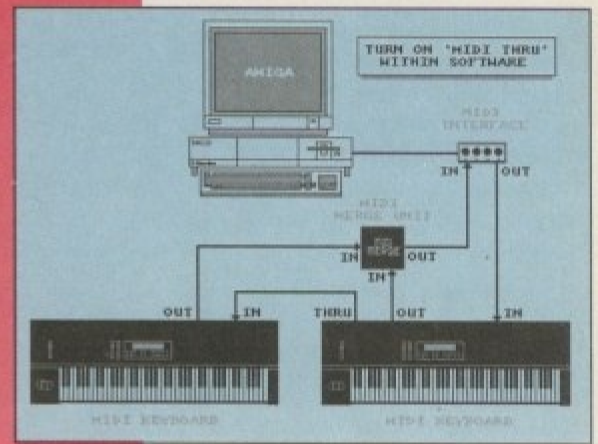
Instrument manufacturers often produce synths and samplers in both keyboard and module form.

Once again, hooking up this network is fairly straightforward. One thing to note, however, is that the modules make use of the MIDI Thru connector.

This is necessary because the devices themselves are not capable of generating their own MIDI information – ignoring SysEx, of course. As a result, all you want them to do is to read the MIDI information that is meant for them and then pass it on to the next device in the network.

Because the keyboard is connected directly to the computer, it is not possible to talk to the modules unless the software you are running has a MIDI Thru option.

This basically allows the MIDI Out connector on your Amiga MIDI interface to transmit not only the MIDI information generated by the Amiga, but also that which is being received from the MIDI In connector. As a result, the sound modules can be played live from your MIDI keyboard.



A rather more complex arrangement of features including two keyboards

Two keyboards

Last but not least, we have a rather more complex MIDI network containing two keyboards.

It is possible to connect up the second keyboard as you would a sound module, but this then renders the keyboard incapable of transmitting its own MIDI information.

In effect, the Amiga will only be able to receive information from a single keyboard, although it can transmit to both.

If you want to be able to play both keyboards simultaneously you'll need to invest in a little gadget called a MIDI Merge unit.

Merging two continuous MIDI data streams isn't as simple a job as you may think, so it will come as no surprise that a MIDI Merge unit will set you back quite a few pounds – about 80 of them to be precise.

MIDI Merge units are available from most music equipment stockists. A good bet is the £80 2M MIDI Merge unit from Philip Rees Music Technology (0869 810948).

In a future article I shall be taking an indepth look at the kind of devices available to assist in making the maintenance of a MIDI network somewhat simpler, so stay tuned.

In his own inimitable style Fast Eddie McKendrick shows how to make your mark on bulletin boards

We took a brief look last month at the various components required to get your Amiga online. In this instalment of *Amiga Computing's* beginner's guide we contemplate what services are on offer at the end of the line, and get one step nearer to accessing them.

The initial port of call for most people venturing into the wide world of comms is a local bulletin board. These services are typically housed on home computers and contain text messages and a library of files.

The messages can be about any subject that the person running the board, referred to as the sysop, sees fit. Similarly, the online files library can span as many categories as he has space for.

Some boards devote themselves entirely to special interest groups, for example religious organisations or charities.

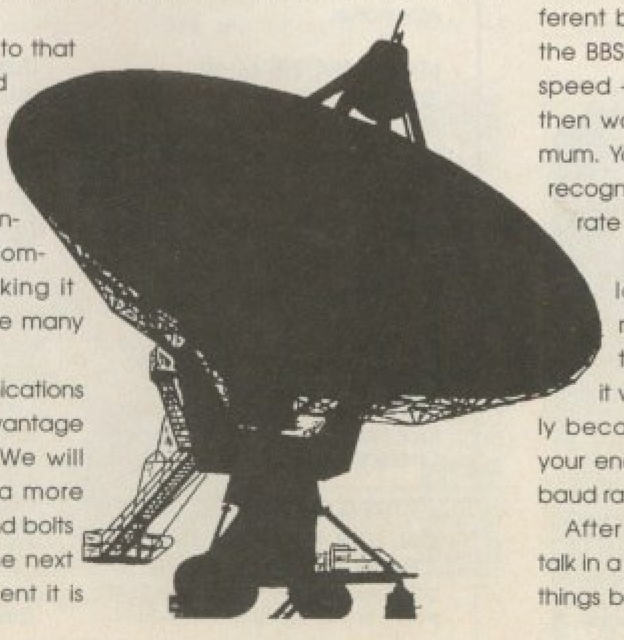
Others may provide special closed user groups (CUGs) to cater for these minority interests.

Sysop and setup

Bulletin boards are a labour of love for their operators and it is rare for a charge to be made for providing the service.

Understandably perhaps, some people find it difficult to comprehend why sysops tie up their computer and modem, not to mention hard disks and the like, just to provide a system for other people to call.

There is no easy answer to that question, but more and more people are setting up boards, so there is a definite attraction.



Most bulletin boards conform to a uniform serial communications format, making it easy to switch between the many services available.

The usual serial communications setting required to take advantage of BBS services is 8-N-1. We will explain these settings in a more detailed look at the nuts and bolts of comms coming over the next few months. For the moment it is enough to set your communications software's serial parameter settings to eight data bits, no parity, one stop bit. You should also find out the maximum speed of your modem and set the baud rate accordingly.

Most BBS in the UK cope with speeds from 300 baud up to 2400. There are some that will cope with much higher speeds, but most sysops cannot stretch their budgets to mega fast modems to receive your call.

It is worth remembering that no matter how fast your modem, the board can only respond as fast as the maximum speed of its modem.

After getting the settings side of things organised, it is time to make that call. Most good comms packages for the Amiga include a phonebook utility, allowing numbers to be stored for simple auto-dial access.

It is well worth inputting board details into a directory if your software has one, rather than just using the ATD command.

If you are using a phonebook for example, the dialler software will cope with numbers that are engaged by pausing for a defined period of time and then automatically redialling for you.

It's a lot less tedious than having to issue dial commands manually to the modem each time until the line is free.

After sending the dial instruction via the comms software there should be immediate activity in your modem lights. Most modern modems also have a built-in speaker, which allows you to track the progress of your call audibly. Hopefully, within a few seconds you should be online. If you're not then something simple has probably gone wrong.

If it doesn't work straight away, don't get frustrated, just check the following...

If your modem fails to respond to the dial instruction, check to ensure that the serial cable between the computer and the modem is connected.

If the modem lights flicker but you cannot hear a dialling tone, check that the modem is connected to the telephone socket.

If your modem doesn't have a speaker simply plug a telephone into it and pick up the handset. No dial tone means your modem is not connected to the line.

Should you get a dial tone and can hear the modem sending a series of beeps down the line, but no dialling is taking place, it means that you are on an old pulse dial exchange.

Locate the dial prefix section within your software's modem setup screen and set this to ATDP, then try again.

If you can dial out but not get a connection and simply hear the other modem making noises at different frequencies – called carrier tones – you have probably set your speed wrongly.

Each frequency relates to a different baud rate. The modem at the BBS end will first try its lowest speed – usually 300 baud – and then work its way up to its maximum. Your modem will wait until it recognises the tone for the baud rate it is set for.

If your modem fails to latch on to the host modem's carrier this means that it did not hear the tone it was waiting for. This is usually because the speed setting at your end is too high. Reduce your baud rate setting and try again.

After coaxing your modem to talk in a civilised manner to the BBS, things become a lot more straightforward, and fun! Your initial connection to any new BBS will invariably involve some sort of registration procedure.

The BBS software will ask you a series of questions and your answers let the sysop know who you are and where you are calling from. You will also be asked to select a secret password. This will be used by you to gain access on all your subsequent calls, so it is important that you pay attention to the on-screen instructions.

There are a few simple tips to bear in mind when registering on any BBS. First and foremost always be honest! If you give false details everything may seem OK, but clever BBS packages have a habit of randomly asking you to verify a particular detail before you are granted access. What was that false birth date you gave again?

Don't be personal

The next unwritten rule, until now, is never give away masses of personal information. Some sysops are just plain nosey. A name and address is fine, as is a phone number or your date of birth.

Never be tempted to give in to requests for credit card numbers or any very personal information that you would normally refuse to tell a stranger. Be especially wary of innocent questions like: "What other BBSs do you use?".

Most people get into the bad habit of using the same password for all boards they call. Make sure you don't. In the unlikely event that a sysop is less than honest, he could start to use your accounts on other boards. It doesn't happen often, but it does happen.

To start with you must at least remember that the sysop is a stranger. He is no-one official, just another person like you who happens to run a board. Given time he may become a good friend, but it does take time.

● Next month – now that you have joined the board exactly what can you and your Amiga get out of it ?

Nick Veitch gets in a spin over rotation tools and runarounds

I FORGET who it was who complained about people who dreamt of immortality and yet could never find anything to do on a Sunday afternoon. I know what he was on about.

There are those who bemoaned the lack of a rotation tool in Amiga DTP packages that now, once they have them, will never use them or worse – use them too often.

There are obvious uses, perhaps the most notable of which is the tease. This is a strip of text usually found on the cover of the publication, which attempts to entice the reader inside.

Traditionally these are white on red and set at 45 degrees to the edge of the cover, bleeding off the edge. You know the sort of thing. Look at any cover of TV Times – "Win a Car", "Free Money", "101 Winning Ways With Mince".

The rule with these is: Keep them short. I'm sure there is an unfortunate section of the population who always have their head at such an angle, but for most people it is quite uncomfortable.

For the same reason it's better to use a sans-serif font like Triumvirate and bung the whole thing in large caps.

Another good excuse is background bleeds. A large tinted font set in the background can give some pages a more pleasing aspect.

For some reason it is always a lot better if the text runs diagonally up from left to right. I'm sure there is some psychologist or ergonomics expert working even as we speak on why this should be so.

The other amazing ability that rotation gives you is an angled runaround. The examples here show ways of creating an angular and a curved runaround using just two boxes. This is how it is done.

For the windmill picture, create a text column which runs from the centre of the sails to the far right. Import the text and you will see that it becomes indistinguishable against the background.

Create another box with no line but a solid white fill. Rotate the box to the desired angle – 53 degrees in this case – and place. Luckily the sails are almost at right angles so this is enough to give us our background. Alternatively you could have masked out the graphic beforehand.

Now create two more boxes. Make them both impermeable and rotate them to fit over the sails. Amazingly enough all the text now runs in the right place.

A similar technique was used with the pool ball graphic – which was incidentally created entirely in ProPage – except the boxes were used to approximate the angle of the curve.

Of course both of these examples could have been achieved without rotation but it would have taken an *awful* lot more time and boxes.

Some people may be wondering why it isn't possible just to use hard spaces to push the text out around an object.

Well, yes, you can do that. As long as you have some time to kill and you never want to edit the text again.

When you start doing that your text stops being a sort of fluid that you can pour into columns and starts being static and unco-operative. DTP is supposed to be about labour-saving page layout not fiddling around bunging in spaces.

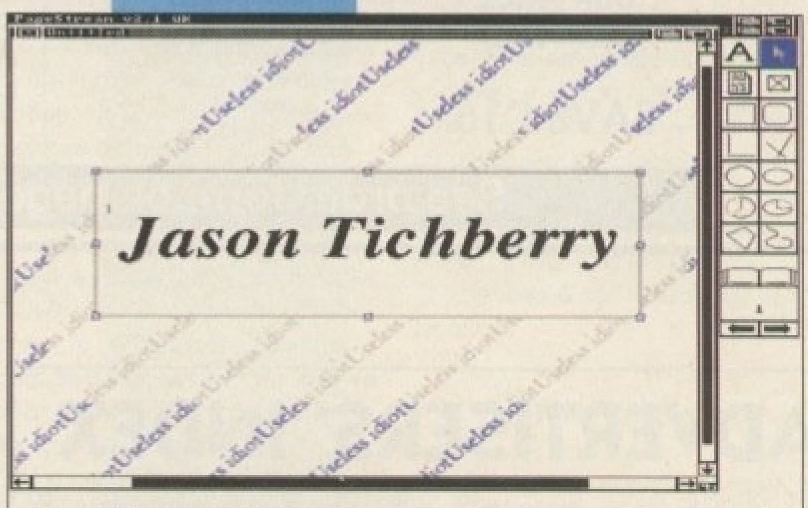
Remember that runarounds are also a bit hard on the eye so use them sparingly.

What with all these boxes rotated, runarounds and suchlike people may find it difficult to know which way up the page is supposed to be.

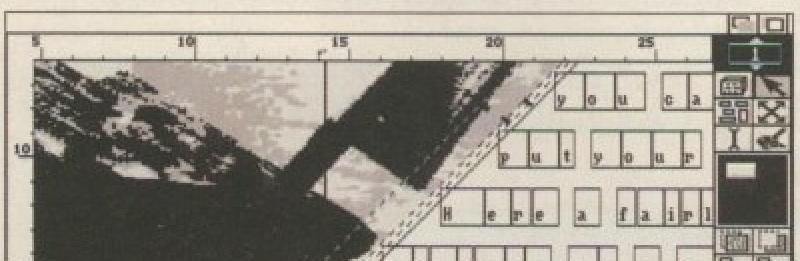
So let us say "Hurrah" that we now have rotation and then go back to our consituencies and use it wisely.

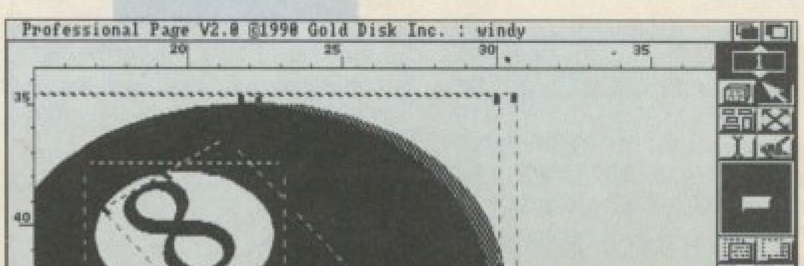


Teasing is easy – but remember to keep them short



Rotating text has ornamental uses too – beef up your business cards


A windmill has a close call with CGTimes, courtesy of ProPage



And for my next trick – text behind the eight ball required only two boxes to keep it there

SAVE £15

AMIGA COMPUTING

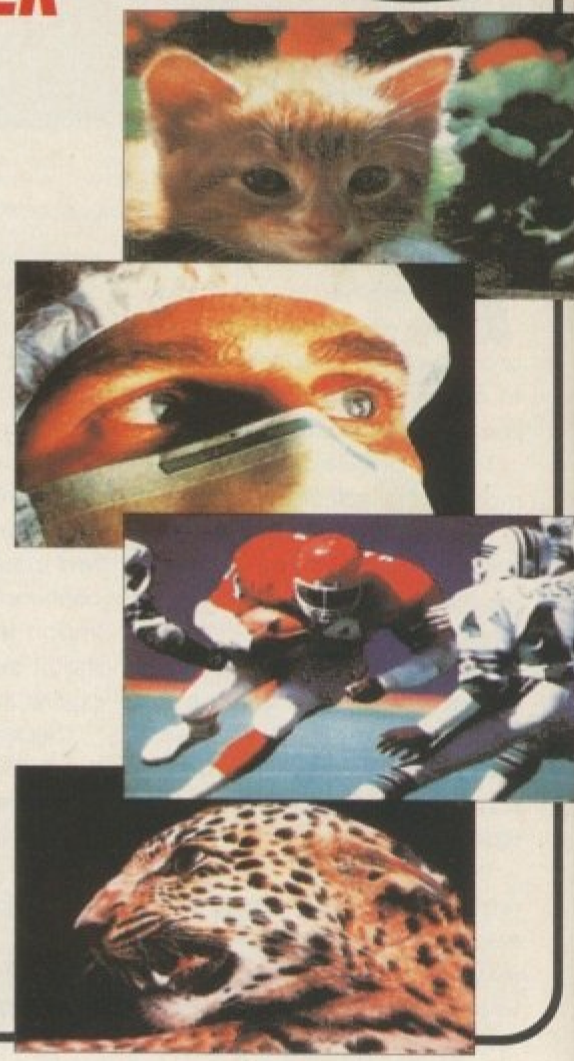
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"Vidi must be one of the most exciting peripherals you can buy for your Amiga" – *Amiga Computing, March 1990*

See order form on page 129

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AMIGA COMPUTING

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Peter Hickman's at it again with tips on filling your screen with a veritable extravaganza of colour

Welcome to our monthly delve into the most versatile language for the Amiga – AMOS. In this exciting instalment I will take a long look at the new commands offered by the AMOS 1.21 update.

If you haven't got it yet phone Sandra Sharkey at the AMOS PD library on 0942 495261.

Before we investigate the mysteries of the update I thought a new product, previewed at the Computer Shopper Show in December, warrants a quick look.

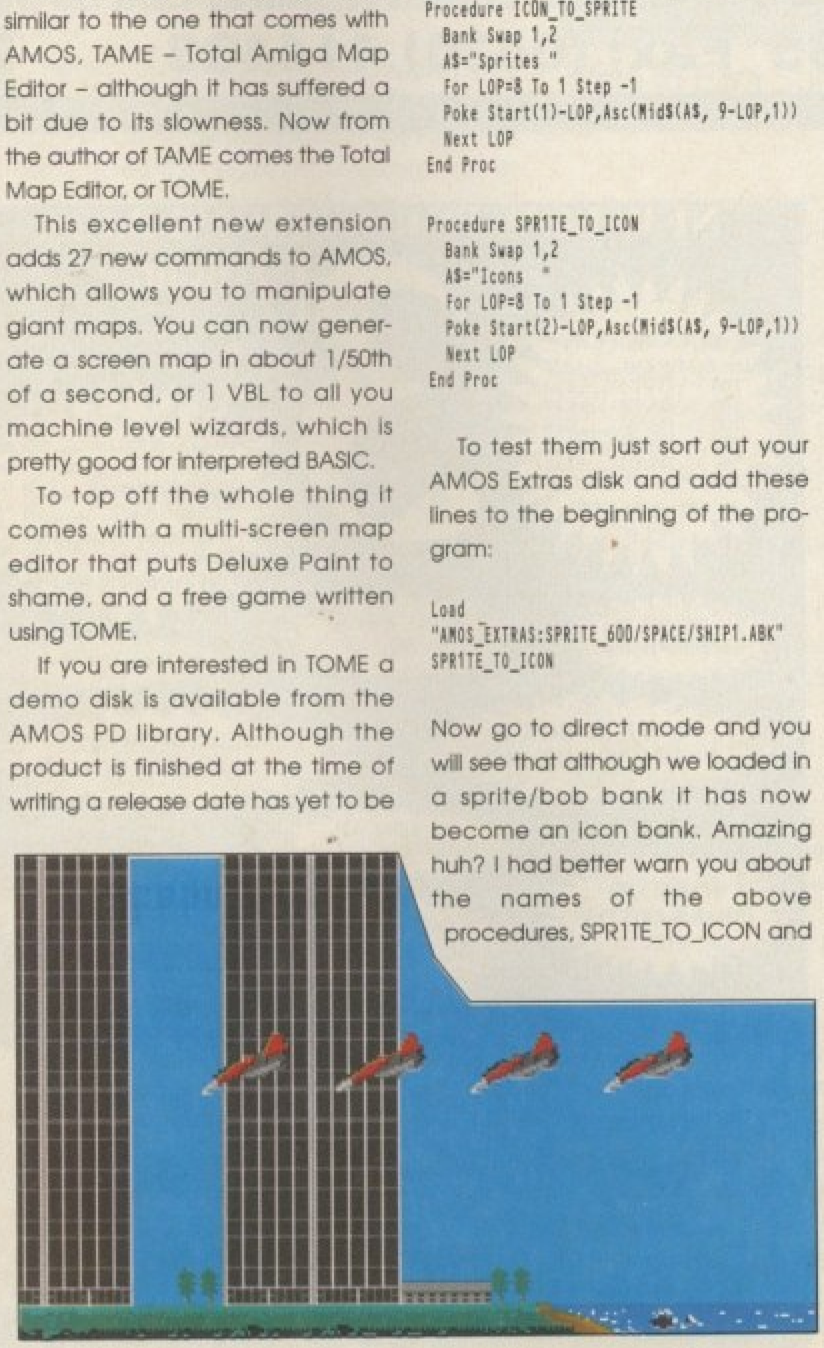
Have you ever wondered how programmers write games like Ghouls & Ghosts and Rainbow Islands with massive levels that seem to stretch on for many screens?

They employ a mapping system similar to the one that comes with AMOS, TAME – Total Amiga Map Editor – although it has suffered a bit due to its slowness. Now from the author of TAME comes the Total Map Editor, or TOME.

This excellent new extension adds 27 new commands to AMOS, which allows you to manipulate giant maps. You can now generate a screen map in about 1/50th of a second, or 1 VBL to all you machine level wizards, which is pretty good for interpreted BASIC.

To top off the whole thing it comes with a multi-screen map editor that puts Deluxe Paint to shame, and a free game written using TOME.

If you are interested in TOME a demo disk is available from the AMOS PD library. Although the product is finished at the time of writing a release date has yet to be set – in fact it still hasn't been decided who will market it.



Swap banks

Now to the AMOS update. Probably the most advanced feature of v1.21 is that it offers the user more control when manipulating bobs (Blitter OBjects) and icons.

You can also swap memory banks around, and because sprite/bob banks are stored in the same way as icon banks, you can swap them to your heart's content.

In the best Blue Peter tradition I have already prepared two small procedures which will let you turn a sprite/bob bank into an icon bank or vice versa. Type this into the AMOS editor:

```
Procedure ICON_TO_SPRITE
  Bank Swap 1,2
  A$="Sprites "
  For LOP=8 To 1 Step -1
  Poke Start(1)-LOP,Asc(Mid$(A$, 9-LOP,1))
  Next LOP
End Proc

Procedure SPRITE_TO_ICON
  Bank Swap 1,2
  A$="Icons   "
  For LOP=8 To 1 Step -1
  Poke Start(2)-LOP,Asc(Mid$(A$, 9-LOP,1))
  Next LOP
End Proc
```

To test them just sort out your AMOS Extras disk and add these lines to the beginning of the program:

```
Load
"AMOS_EXTRAS:SPRITE_600/SPACE/SHIP1.ABK"
SPRITE_TO_ICON
```

Now go to direct mode and you will see that although we loaded in a sprite/bob bank it has now become an icon bank. Amazing huh? I had better warn you about the names of the above procedures, SPRITE_TO_ICON and and ICON_TO_SPRITE.

You will notice the numbers in the procedure names. They are there because AMOS already has commands called SPRITE and ICON. If you tried to use these words AMOS would quite correctly report an error.

Flipping is an essential feature for any language which prides itself on being comprehensive, so it is quite surprising to find that AMOS is alone in having this unique ability.

Jump to direct mode and type this:

```
? "AMIGA COMPUTING"
```

You will see (guess what?) appear at the top left hand corner of the screen. Now we must store these words as a block, so use:

```
Get Block 1,0,0,120,10,1
```

This will store the words "AMIGA COMPUTING" as block number one. To make sure we have grabbed the correct image we must paste the block back on to the screen.

You will notice that for the block commands you are required to enter the BLOCK NUMBER, X-COORDINATE, Y-COORDINATE:

```
Put Block 1,100,100
```

and surprise, surprise our block is stuck in the centre of the screen. To change the characteristics of this block we must use two new commands, HREV which performs horizontal flipping and VREV for vertical flipping.

The key thing to remember is that AMOS is not reversing the image when it is displayed, but changes it round in memory permanently.

Now let's clear the screen and reverse the block horizontally:

```
Cls
Hrev Block 1
Put block 1,100,100
```

Wow, what can I say? Is François Lionet brilliant or what? Anyway, that is how the system works for blocks.

Sprites and bobs are different, let's see how by grabbing the same piece of text as before but this time as a bob:

```
Cls
? "AMIGA COMPUTING"
Get Bob 1,0,0 to 120,10
Paste Bob 100,100,1
```

You will immediately see the difference between the PASTE BOB and PUT BOB commands, with the bob routines requiring you to specify the X co-ordinate, Y co-ordinate and then the bob number.

Now things start to get slightly complicated. Because of the way the sprite/bob system works when they are flipped, the reversed images are only temporary.

So to flip an image horizontally you add a simple number to the bob number that you would normally enter. To make it clearer, François Lionet has invented some new predefined functions called HREV(), VREV() and REV().

To reverse a bob horizontally you type:

```
Cls
Paste Bob 100,100,HREV(1)
```

and to reverse one vertically type:

```
Cls
Paste Bob 100,100,VREV(1)
```

Finally, to reverse a bob horizontally and vertically type:

```
Cls
Paste Bob 100,100,REV(1)
```

I know it sounds quite complicated, but after a little bit of practice things become clearer. To prove that the reversed bobs are only temporary try this:

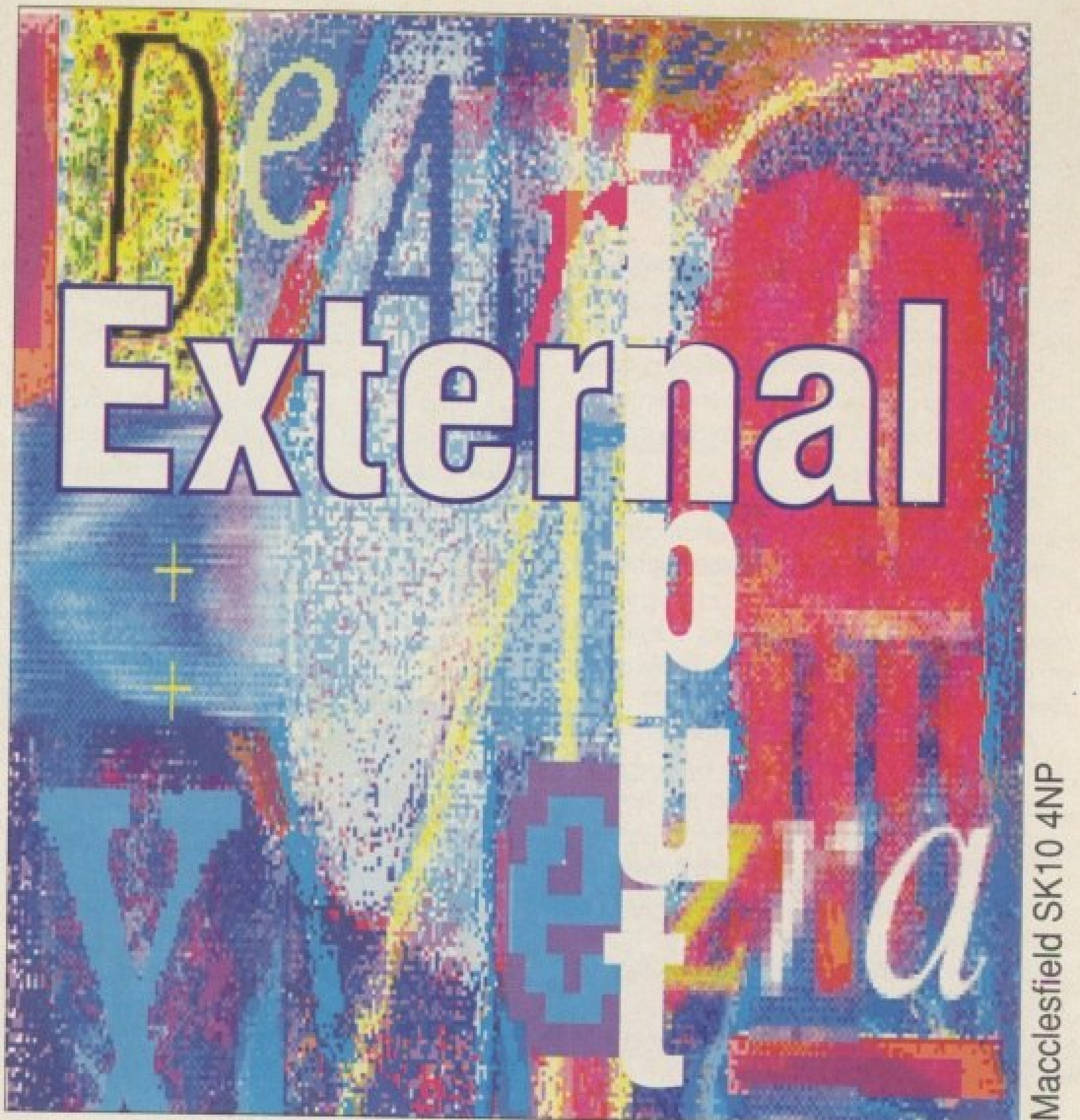
```
Cls
Paste Bob 100,100,1
```

Result, a normal bob!

This image flipping system is totally integrated with AMAL, so next time we will take a quick look at using it to improve animation techniques and save memory.

Oops, hang on, AMOS 1.23 has just popped through my letter box. Imaginative name huh? It now supports more multi-tasking control, full NTSC compatibility and finally interlaced screens.

See ya next month!



Write to Ezra Surf, Amiga Computing, Europa House, Adlington Park, Macclesfield SK10 4NP

Three amigos

Thank you so much for being so kind as to publish my plea for help in the February issue of *Amiga Computing*.

I have received a very prompt reply from Neil Mansell of Essex and he is in the process of transforming a dream into reality.

As an added bonus he is also a trainee computer programmer, so from a person who had nothing, through the miracle of your magazine I am about to have everything.

What a wonderful body of Amigos you are!

Robert H Fisher, Canterbury, Kent.

Rorke's flicker

I own a 1Mb A500 and have recently purchased Rorke's Drift by Impressions. I am generally quite pleased with the game despite it being a little slow.

The problem, however, is an annoying bug which causes the screen to glitch and flicker when progressing further into the game. Gradually, the interference increases and finally results in the computer crashing with a blank screen.

I assume this bug is caused by the processor trying to cope with moving too many characters around as the Zulus begin to move. Obviously, this makes it impossible to progress further.

Please could you tell me if you have experienced any similar problems during the reviewing? Perhaps some readers out there have also come across this bug or know how to avoid it? I would be most grateful for any advice.

Brett Buckley, Huddersfield.

Nope, works just fine on our machines. If anyone else has suffered the 'bug' and corrected it, let us know and we'll pass on the glad tidings.

First time moaners

I'm sorry I have to write this letter to you but it had to come one day. As you might have guessed, I'm here to moan, and I want to defend myself as you (well, Eddie McKendrick) called my girlfriend a piece of computer history.

In the article First Time Buyers (issue 33), you put my beloved Amiga 1000 right down, and I think you are not being fair.

Just think, if we 1000 owners had not been first time buyers where would the Amiga be now? Exactly nowhere!

The Amiga would not have been sold – it would have been a total flop and Commodore would not even have thought about making superior machines such as the A500 and A2000.

So you all have to thank us really, don't you?

And now to a different point. In the article you say that most copy protected software would not work and nor would hardware add-ons.

Come on, get it right. I have not had one single program that did not work on my machine which would work on another. And believe me, I have run a hell of a lot of programs in my four year Amiga 1000 career.

As far as the hardware add-ons go, you're right. Most of them do not work, but you do get specially developed hardware just for the A1000.

Now I do agree that it is difficult in the UK to find the hardware you want, but that is because there are only a few A1000 owners over here.

If you look at the market in Germany or France where the number of A1000s sold is much greater, the situation is completely different!

Also I must say that a lot of my friends with A500s are jealous of the A1000 design because you must admit that until the A3000 was released the A1000 design was the best.

I would love to hear the views of other A1000 owners on this.

Oliver Prill, Oakham, Leicestershire.

Yeah, a little harsh, but nowadays it's probably not a good idea to buy an Amiga 1000 – although I appreciate that for those of you already lumber...er, owning one, the future isn't all doom and gloom.

You may have noticed, of course, that we've featured the Amiga 1000 on the cover a few times over the last months. The machine in question belongs to popular *Amiga Computing* columnist Jason 'Kid' Holborn and he swears by it (at least that's what I think he said...)

Any other A1000 owners with an opinion to express are welcome to to send them for publication.

X-rated!

I read with interest the Sexism or Salesmanship? article in the February 1991 issue of *Amiga Computing* and would like to add my own views to this debate.

Steve Kennedy highlighted many forms of sexual stereotyping in his essay, but one he didn't mention was the use of advertisements in selling games of this kind.

Many companies are guilty of showing scantily-clad females on the packaging and while they're all very well as a selling point, it often disgusts the average computer user.

Perhaps the most notorious advertisements to appear in the last few years were Game Over and Psycho Pig UXB by Ocean and US Gold respectively.

The former caused an outcry because it depicted the entire chest of a beautiful young woman wearing a transparent bra. Needless to say, Ocean changed this due to popular opinion, but some believed the damage had already been done.

With Psycho Pigs, the advertisers went one step further by employing a model to pose for them. This brought back memories of Palace's two best selling Barbarian titles, which relied on

the charms of top model Maria Whittaker splashed all over the cover to arouse public interest.

In the sequel it did not seem as bad, since both the male and female characters could be played if desired and at least the picture went well with the game.

If anyone had doubts about her clothes – or lack of them – these were quashed at the sight of the barbarian standing nearby.

However, this does raise an interesting question. Is it all right to show a semi-nude female if on the same artwork there is a muscle-man in the same state of undress?

Another company worthy of mention is Hewson, creator of Astaroth. The official artwork of the Angel of Death showed her entirely naked, yet with enough changes to convince any buyer that the being was in fact an alien and not a woman. Few people complained.

This brings me to my second question. How can companies evade the issue by designing nude aliens when they still hold the female form?

Hewson accomplished this feat again with Storm Lord, a game which involved rescuing naked fairies. There was little complaint to this, and indeed all the male reviewers enjoyed themselves immensely.

I have yet to see a woman review one of these games. I'm sure she would rate it differently to her male counterparts!

To a lesser extent, the Cinemaware games sometimes use pornographic material. The end screens in Defender of the Crown, rescuing of the Emperor's daughter in Lords of the Rising Sun and the zombie slaves (as well as Jane Barnstaff) in Rocket Ranger could be accused of going too far.

I will not mention the cheer leaders in TV Sports Football because they dress up like that anyway, so the game is highly realistic. The same can be said, I am sure, for most games in the Cinemaware stable anyway.

Coming up to date, it seems the industry has learned little from its previous mistakes, and is still as greedy now as it was then.

Titles such as Escape from Singe's Castle by Sullivan Bluth show that programmers are willing to invent new scenarios. All too often they just release yet another title with the boring storyline of 'save the girl from the villain'.

I'm becoming very tired with this, especially as many of the games I design would do as well, if not better.

To sum up, I suggest companies cut down on their advertisements with pornographic stereotypes as it will be for their own good in the long run.

The young may think this stuff is a laugh now, but what will they think after getting married and having children?

Will they want to see their sons buying Barbarian, Game Over and Vixen type games in the future just because they have a sexy woman on the cover? I think not.

Such stereotyping is just the gloss on a dull game anyway which has been proved in the past.

If the trend continues I only hope that flexibility will be introduced to allow us to play either the male or female character.

Personally, I'll stay away from the pornographic material, buying instead classics such as Kick Off 2 and F-19 Stealth Fighter.

S N Hardy, Wales, Sheffield.

Yep, women are degraded in all forms of advertising, used as glossy adornments to sell everything from golf balls to aeroplanes

This will continue as long as social conditioning, which starts at an early age – pink clothes, blue clothes, girls cry, boys don't and so on – continues to present women in a passive role.

You've made a convincing argument 'against', and there's little to add except on three minor points with which I disagree.

Software houses, and anyone else with products to sell, are merely the product of their own social conditioning. As a consequence, they probably won't stop using women in advertising.

The prospective consumer is also bound by the same conditioning and the advertising is therefore extremely effective. Remember that the largest part of this consumer audience is pre-conditioned in the manner mentioned above, and therefore male – *"Girls don't play with computers"* (sic).

Programmers are unwilling to invest time and energy in new scenarios because at the moment there's no need, the old ones sell just fine.

I once read an analogy that likened the software industry to movie making when the latter was in its infancy. Traditional plots were the order of the day, and it was a long time before the industry matured and explored more complex themes.

The software industry is at almost the same stage of development. Tired B movie plots involving aliens, stranded girlies and so on, and male stars dripping machismo, wiping out the aliens and rescuing their raggedly clad counterparts.

Finally, games such as F-19 Stealth Fighter could also be described as being pornographic in that the object of the gameplay – killing – is certainly obscene.

The solution lies with parents, teachers, the media and so on and how they present the world to young children.

Upwardly mobile

As you are the magazine that good programmers read, I would like to make a plea through your pages. Please consider that some people do not have an A500 with half a megabyte and one disk drive.

I do not ask that you spend extra time coding for more well endowed machines, but please try to make your programs upwardly compatible.

It is a shame when things do not work on a A3000, or RAM expansions need to be removed from an A500. If some of Commodore's more reasonable programming guidelines are adhered to your programs should be usable by all.

Enough of the begging, but while I am on the subject of A3000s, it is odd that they are only just becoming available, when they were first mentioned in the first *Amiga Computing* that I ever bought in November 1988.

One last thing, the SAS Institute will never get people to call Lattice C by its name SAS/C.

Dave Pettitt, Summertown, Oxford.

Fair enough, our resident C expert Margaret Stanger, is straining at the bit to get into the heavy stuff. Stick with her, she'll get there in the end.

Commodore speccy?

After reading the Head Start review of the ST emulator it has come to my attention that there is a Spectrum emulator. As I have never heard of it, I would be grateful for any information regarding where I could get it, what happens about tape software and how much it would cost.

Richard Brook, Mid Glamorgan.

Well, there is a Spectrum emulator out there, but that's all we know! Whether it's commercial or public domain and how tapes are used we don't know. Anyone using one?

Recommended!

I read with interest your comments in your PD section regarding Agene. I first heard of this program in last month's edition of another Amiga magazine. Like you, they made the point that this program is difficult to get to grips with.

I have been looking for a program like this but I was somewhat put off by the apparent difficulty, as a great deal of computing, especially the terminology, is a complete mystery to me.

I decided to try my luck and much to my surprise I have found the program very easy to work with and an absolute delight in the detail that it explains. If I can use it, then so can anyone else.

Following your review of GB Route, I decided to invest in the program and totally agree with all your comments. I am looking forward to the update when this is available.

D W Joslin, Bridgewater, Somerset.

In the opinion of our software evaluators Agene was just a little tricky to use especially for beginners. You, however, have proved us wrong and we're happy to admit it in the light of your success.

GB Route is a hummer and the update sounds pretty funky too.



Counter attractions

Eager to your spend hard-earned readies on Amiga kit? Eddie McKendrick points at the pitfalls...

Flick through the pages of this, or any recent issue of *Amiga Computing* and you won't fail to notice dozens of mail order companies tempting you with their wares.

Buying by post has come a long way since the early days. Many mail order firms now give the high street a convincing run for your money.

Mail order first gathered steam when small electronics companies began developing and producing specialist peripherals. For one reason or another, they couldn't get their boxes into shops, so had to start selling them directly, by post.

A multi-million pound industry has developed from these early ventures, and now it is possible to purchase almost anything up to an Amiga 3000 by post.

For small peripherals, mail order wins hands down against over-the-counter shopping. If you just want to pick up an Amiga 500 down at the shops, you won't have any trouble whatsoever.

The average high-street 'kompooter' sales operative knows what the difference between the Amiga, the ST and the cash register is – the ST is grey.

Beyond buying Commodore's gift wrapped bargain bundles, you could have a problem. Remember the assistant is not there to know about computers, only to sell them. If he doesn't get training, you can't blame him for not knowing.

Specialist dealers fair better in this respect, they know their stuff, but generally don't carry the range of stock that mail order can.

It's on the cards

I will bet you all the bugs in AmigaBasic that you won't be able to pick up a Teletext adaptor card for the Amiga 500 down your local high street. Nor, at the other end of the price scale, will you be able to find an accelerator card for the Amiga resting between the mice and joysticks.

Any good local dealer will offer to order either of the above for you. Bear in mind though that you can do that yourself and cut out the delay, and perhaps some of the expense.

It's not just the go-faster bolt-on bits you can get through the letterbox. Any commercially published software title can be obtained through the post.

When on the look-out for a particular piece of software check these pages first, as more likely than not, just what you're looking for will be advertised in *Amiga Computing*.

You could visit the town centre, but be warned, department stores and high street shops don't carry much software. What they do offer tends to be games chart material.

Again, smaller local dealers fare a bit better, but they tend to specialise in pricey applications packages which have a long shelf life.

So much new software is published for the Amiga these days it would be impossible for shops to stock it all, and be sure of shifting enough of it to make a profit. Mail order firms avoid this worry by selling from one outlet.

Apart from the diversity of goods available, there are two other reasons for considering the mail order route – price and support. You can't fail to have noticed that most software is significantly cheaper when ordered by post.

If you're looking for a catch, there isn't really one to speak of. It all comes back to this high turnover thing again. Mail order companies order the latest hits in toe-curling quantities and the software houses are only too happy to pass on a discount for such good custom.

Also remember that mail order operations don't have to pay salesmen or heat and light posh showrooms. Their only expense really is advertising, which compared to running a chain of shops, is insignificant.

Discounts in hardware are achieved by slightly different means. Again, for popular lines, the mail order company can buy huge quantities of a particular RAM expansion and be sure of selling them all before they become obsolete.

For more specialist, expensive items, they typically don't hold stock. Instead, they have a means of getting such peripherals quickly, usually the next day.

Generally, high street shopping is a WYSIWYG experience. If you can see and touch the item you want, fine, you can take it away if you have the money. If on the other hand a shop is sold out of what you want, it could take a while to get more supplies. It is also fair to say that most shops that don't stock what you are interested in won't be interested in ordering it for you.

There is also the choice factor to consider with mail order. It is possible to scan advertisements without having to traipse into town, unless of course you haven't bought this magazine and are reading it in the newsagents.

If that is the case, perhaps you should consider a subscription. You see, even *Amiga Computing* is available mail order...

It is far easier to make your mind up, deciding what you want, and more importantly, how much you can afford, without a salesman hovering over you.

The only teeny drawback with distance shopping is you can't usually see a demonstration of the goods you are interested in.

For software that's not really a problem. Good games will probably have been reviewed.

If on the other hand your interest lies in expensive applications software, a demo disk might be available. Failing that, call the software house and ask for information.

Useful reviews

If it's hardware you want to blow your wad on, again, check for reviews. If you can't find any, hassle the relevant company for details. Remember its your money and you should be 100 per cent happy before parting with it.

Support tends to vary from company to company. When you are deciding who to buy from, especially in the case of hardware, ask some difficult questions over the phone and see if the answers are polite, and make sense.

There are numerous good mail order companies, staffed by people who know what they are talking about. There are of course, the other type. Just as you get bad shops, you get bad mail order outfits. As long as you are careful things should be fine.

Before parting with your money make a few common sense checks. Does the company's advert look tidy? Have you seen their name before? Do they accept credit cards?

The tidy ad means they are professional. Recognising their name means they are established and the credit card acceptance shows that major banks have checked them out financially. Easy really.

Having said that, some smaller companies may not accept cards. This is not because they are fly-by-night or disreputable, but because they don't sell enough stuff to make having credit clearing facilities viable.

This is especially true on the software side, where the charges made by credit cards would seriously dent the very narrow mail order profit margin.

Next time you are looking at buying something for your Amiga, flick through the adverts before you dash off to the shops. You could save yourself a little cash – and quite possibly a lot of shoe leather.